

06/09/2006

Bank: (Instrument Rating)

Airman Knowledge Test Question Bank

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1. I29 IRA

Test data indicate that ice, snow, or frost having a thickness and roughness similar to medium or coarse sandpaper on the leading edge and upper surface of an airfoil can

- A) reduce lift by as much as 50 percent and increase drag by as much as 50 percent.
- B) increase drag and reduce lift by as much as 25 percent.
- C) reduce lift by as much as 30 percent and increase drag by 40 percent.

2. H703 IRA

What is the relationship between centrifugal force and the horizontal lift component in a coordinated turn?

- A) Horizontal lift exceeds centrifugal force.
- B) Horizontal lift and centrifugal force are equal.
- C) Centrifugal force exceeds horizontal lift.

3. H807 IRA

The rate of turn at any airspeed is dependent upon

- A) the horizontal lift component.
- B) the vertical lift component.
- C) centrifugal force.

4. H807 IRA

During a constant bank level turn, what effect would an increase in airspeed have on the rate and radius of turn?

- A) Rate of turn would increase, and radius of turn would increase.
- B) Rate of turn would decrease, and radius of turn would decrease.
- C) Rate of turn would decrease, and radius of turn would increase.

5. H807 IRA

Rate of turn can be increased and radius of turn decreased by

- A) decreasing airspeed and shallowing the bank.
- B) decreasing airspeed and increasing the bank.
- C) increasing airspeed and increasing the bank.

6. H825 IRA

The primary reason the pitch attitude must be increased, to maintain a constant altitude during a coordinated turn, is because the

- A) thrust is acting in a different direction, causing a reduction in airspeed and loss of lift.
- B) vertical component of lift has decreased as the result of the bank.
- C) use of pedals has increased the drag.

7. H807 IRA

The primary reason the angle of attack must be increased, to maintain a constant altitude during a coordinated turn, is because the

- A) thrust is acting in a different direction, causing a reduction in airspeed and loss of lift.
- B) vertical component of lift has decreased as the result of the bank.
- C) use of ailerons has increased the drag.

8. H1404 IRA

Precision Runway Monitoring (PRM) is:

- A) an airborne RADAR system for monitoring approaches to two runways.
- B) a RADAR system for monitoring approaches to closely spaced parallel runways.
- C) a high update rate RADAR system for monitoring multiple aircraft ILS approaches to a single runway.

9. H931 IRA

At an altitude of 6,500 feet MSL, the current altimeter setting is 30.42 inches Hg. The pressure altitude would be approximately

- A) 7,500 feet.
- B) 6,000 feet.
- C) 6,500 feet.

10. H808 IRA

The pressure altitude at a given location is indicated on the altimeter after the altimeter is set to

- A) the field elevation.
- B) 29.92 inches Hg.
- C) the current altimeter setting.

11. H931 IRA

Pressure altitude is the altitude read on your altimeter when the instrument is adjusted to indicate height above

- A) sea level.
- B) the standard datum plane.
- C) ground level.

12. H810 IRA

What information does a Mach meter present?

- A) The ratio of aircraft true airspeed to the speed of sound.
- B) The ratio of aircraft indicated airspeed to the speed of sound.
- C) The ratio of aircraft equivalent airspeed, corrected for installation error, to the speed of sound.

13. H758 IRA

If while in level flight, it becomes necessary to use an alternate source of static pressure vented inside the airplane, which of the following variations in instrument indications should the pilot expect?

- A) The altimeter will read lower than normal, airspeed lower than normal, and the VSI will momentarily show a descent.
- B) The altimeter will read higher than normal, airspeed greater than normal, and the VSI will momentarily show a climb.
- C) The altimeter will read lower than normal, airspeed greater than normal, and the VSI will momentarily show a climb and then a descent.

14. H931 IRA

The local altimeter setting should be used by all pilots in a particular area, primarily to provide for

- A) the cancellation of altimeter error due to nonstandard temperatures aloft.
- B) better vertical separation of aircraft.
- C) more accurate terrain clearance in mountainous areas.

15. H1400 IRA

What is the rule for a pilot receiving a "Land and Hold Short Operation (LAHSO) clearance?"

- A) The pilot is required to accept the controller's clearance in visual meteorological conditions.
- B) The pilot must accept the clearance if the pavement is dry and the stopping distance is adequate.
- C) The pilot has the option to accept or reject all LAHSO clearances regardless of the meteorological conditions.

16. J03 IRA

Which type of runway lighting consists of a pair of synchronized flashing lights, one on each side of the runway threshold?

- A) RAIL.
- B) HIRL.
- C) REIL.

17. J03 IRA

Which of the following indications would a pilot see while approaching to land on a runway served by a 2 bar VASI?

- A) If on the glidepath, the near bars will appear red, and the far bars will appear white.
- B) If departing to the high side of the glidepath, the far bars will change from red to white.
- C) If on the glidepath, both near bars and far bars will appear white.

18. J05 IRA

(Refer to figure 137.) What is the distance (C) from the beginning of the touchdown zone marker to the beginning of the fixed distance marker?

- A) 1,000 feet.
- B) 500 feet.
- C) 250 feet.

19. J05 IRA

(Refer to figure 94.) What colors are runway holding position signs?

- A) White with a red background.
- B) Red with a white background.
- C) Yellow with a black background.

20. J05 IRA

(Refer to figure 94.) Hold line markings at the intersection of taxiways and runways consist of four lines that extend across the width of the taxiway. These lines are

- A) white, and the dashed lines are nearest the runway.
- B) yellow, and the dashed lines are nearest the runway.
- C) yellow, and the solid lines are nearest the runway.

21. J05 IRA

'Runway hold position' markings on the taxiway

- A) identifies area where aircraft are prohibited.
- B) identifies where aircraft hold short of the runway.
- C) allows an aircraft permission onto the runway.

22. J05 IRA

When turning onto a taxiway from another taxiway, the 'taxiway directional sign' indicates

- A) direction to the take-off runway.
- B) designation and direction of exit taxiway from runway.
- C) designation and direction of taxiway leading out of an intersection.

23. J05 IRA

The 'No Entry' sign identifies

- A) paved area where aircraft entry is prohibited.
- B) an area that does not continue beyond intersection.
- C) the exit boundary for the runway protected area.

24. J08 IRA

The vertical extent of the Class A airspace throughout the conterminous U.S. extends from

- A) 18,000 feet to and including FL 450.
- B) 18,000 feet to and including FL 600.
- C) 12,500 feet to and including FL 600.

25. B09 IRA

(Refer to figure 92.) What is the minimum in-flight visibility and distance from clouds required for an airplane operating less than 1,200 feet AGL during daylight hours in area 6?

- A) 3 miles; (I) 1,000 feet; (K) 2,000 feet; (L) 500 feet.
- B) 1 mile; (I) clear of clouds; (K) clear of clouds; (L) clear of clouds.
- C) 1 mile; (I) 500 feet; (K) 1,000 feet; (L) 500 feet.

26. J27 IRA

What wind condition prolongs the hazards of wake turbulence on a landing runway for the longest period of time?

- A) Direct headwind.
- B) Direct tailwind.
- C) Light quartering tailwind.

27. J27 IRA

What effect would a light crosswind of approximately 7 knots have on vortex behavior?

- A) The light crosswind would rapidly dissipate vortex strength.
- B) The upwind vortex would tend to remain over the runway.
- C) The downwind vortex would tend to remain over the runway.

28. J31 IRA

An abrupt change from climb to straight-and-level flight can create the illusion of

- A) tumbling backwards.
- B) a noseup attitude.
- C) a descent with the wings level.

29. J31 IRA

A sloping cloud formation, an obscured horizon, and a dark scene spread with ground lights and stars can create an illusion known as

- A) elevator illusions.
- B) autokinesis.
- C) false horizons.

30. J31 IRA

A rapid acceleration during takeoff can create the illusion of

- A) spinning in the opposite direction.
- B) being in a noseup attitude.
- C) diving into the ground.

31. H800 IRA

Without visual aid, a pilot often interprets centrifugal force as a sensation of

- A) rising or falling.
- B) turning.
- C) motion reversal.

32. J31 IRA

Why is hypoxia particularly dangerous during flights with one pilot?

- A) Night vision may be so impaired that the pilot cannot see other aircraft.
- B) Symptoms of hypoxia may be difficult to recognize before the pilot's reactions are affected.
- C) The pilot may not be able to control the aircraft even if using oxygen.

33. J31 IRA

Abrupt head movement during a prolonged constant rate turn in IMC or simulated instrument conditions can cause

- A) pilot disorientation.
- B) false horizon.
- C) elevator illusion.

34. J31 IRA

How can an instrument pilot best overcome spatial disorientation?

- A) Rely on kinesthetic sense.
- B) Use a very rapid cross check.
- C) Read and interpret the flight instruments, and act accordingly.

35. J16 IRA

An abbreviated departure clearance '...CLEARED AS FILED...' will always contain the name

- A) and number of the STAR to be flown when filed in the flight plan.
- B) of the destination airport filed in the flight plan.
- C) of the first compulsory reporting point if not in a radar environment.

36. H1432 IRA

(Refer to figure YYYYYY) Why is there a note stating a temperature limitation for executing this approach with BARO-VNAV equipment?

- A) The descent gradient exceeds the maximum standard of 400-foot per Nautical Mile at low temperatures.
- B) The decision altitude and final approach segment height above obstacles or terrain is unsafe when temperatures are lower than charted.
- C) The missed approach climb gradient exceeds the airplane maximum standard of 40 to 1 at low temperatures.

37. H1433 IRA

How can the pilot determine, for an ILS runway equipped with MALSR, that there may be a penetration of the obstacle identification surfaces (OIS), and care should be taken in the visual segment to avoid any obstacles?

- A) The runway has a visual approach slope indicator (VASI.)
- B) The published visibility for the ILS is no lower than 3/4 SM.
- C) The approach chart has a visual descent point (VDP) published.

38. J18 IRA

How is ATC radar used for instrument approaches when the facility is approved for approach control service?

- A) Precision approaches, weather surveillance, and as a substitute for any inoperative component of a navigation aid used for approaches.
- B) ASR approaches, weather surveillance, and course guidance by approach control.
- C) Course guidance to the final approach course, ASR and PAR approaches, and the monitoring of nonradar approaches.

39. J18 IRA

After being handed off to the final approach controller during a 'no gyro' surveillance or precision approach, the pilot should make all turns

- A) one half standard-rate.
- B) based upon the ground speed of the aircraft.
- C) standard-rate.

40. J18 IRA

During a 'no gyro' approach and prior to being handed off to the final approach controller, the pilot should make all turns

- A) one half standard rate unless otherwise advised.
- B) any rate not exceeding a 30° bank.
- C) standard rate unless otherwise advised.

41. J17 IRA

If only one missed approach procedure is available, which of the following conditions is required when conducting 'timed approaches from a holding fix'?

- A) The pilot must contact the airport control tower prior to departing the holding fix in bound.
- B) The reported ceiling and visibility minimums must be equal to or greater than the highest prescribed circling minimums for the IAP.
- C) The reported ceiling and visibility minimums must be equal to or greater than the highest prescribed straight in MDA minimums for the IAP.

42. B10 IRA

A pilot is making an ILS approach and is past the OM to a runway which has a VASI. What action should the pilot take if an electronic glide slope malfunction occurs and the pilot has the VASI in sight?

- A) The pilot should inform ATC of the malfunction and then descend immediately to the localizer DH and make a localizer approach.
- B) The pilot may continue the approach and use the VASI glide slope in place of the electronic glide slope.
- C) The pilot must request an LOC approach, and may descend below the VASI at the pilot's discretion.

43. H816 IRA

When airspeed is decreased in a turn, what must be done to maintain level flight?

- A) Decrease the angle of bank and/or increase the angle of attack.
- B) Increase the angle of bank and/or decrease the angle of attack.
- C) Increase the angle of attack.

44. H810 IRA

The gyroscopic heading indicator is inoperative. What is the primary bank instrument in unaccelerated straight-and-level flight?

- A) Magnetic compass.
- B) Attitude indicator.
- C) Miniature aircraft of turn coordinator.

45. H815 IRA

What instruments are considered supporting bank instruments during a straight, stabilized climb at a constant rate?

- A) Attitude indicator and turn coordinator.
- B) Heading indicator and attitude indicator.
- C) Heading indicator and turn coordinator.

46. H815 IRA

As power is increased to enter a 500 feet per minute rate of climb in straight flight, which instruments are primary for pitch, bank, and power respectively?

- A) Attitude indicator, heading indicator, and manifold pressure gauge or tachometer.
- B) VSI, attitude indicator, and airspeed indicator.
- C) Airspeed indicator, attitude indicator, and manifold pressure gauge or tachometer.

47. H815 IRA

To level off at an airspeed higher than the descent speed, the addition of power should be made, assuming a 500 FPM rate of descent, at approximately

- A) 50 to 100 feet above the desired altitude.
- B) 100 to 150 feet above the desired altitude.
- C) 150 to 200 feet above the desired altitude.

48. H815 IRA

Approximately what percent of the indicated vertical speed should be used to determine the number of feet to lead the level off from a climb to a specific altitude?

- A) 10 percent.
- B) 20 percent.
- C) 25 percent.

49. H813 IRA

What is the correct sequence in which to use the three skills used in instrument flying?

- A) Aircraft control, cross-check, and instrument interpretation.
- B) Instrument interpretation, cross-check, and aircraft control.
- C) Cross-check, instrument interpretation, and aircraft control.

50. H813 IRA

What are the three fundamental skills involved in attitude instrument flying?

- A) Instrument interpretation, trim application, and aircraft control.
- B) Cross-check, instrument interpretation, and aircraft control.
- C) Cross-check, emphasis, and aircraft control.

51. H826 IRA

If a helicopter is in an unusual flight attitude and the attitude indicator has exceeded its limits, which instruments should be relied on to determine pitch attitude before starting recovery?

- A) Turn indicator and VSI.
- B) Airspeed, VSI and altimeter.
- C) VSI and airspeed to detect approaching VSI or VMO.

52. H818 IRA

During recoveries from unusual attitudes, level flight is attained the instant

- A) the horizon bar on the attitude indicator is exactly overlapped with the miniature airplane.
- B) a zero rate of climb is indicated on the VSI.
- C) the altimeter and airspeed needles stop prior to reversing their direction of movement.

53. H818 IRA

(Refer to figure 145.) What is the correct sequence for recovery from the unusual attitude indicated?

- A) Reduce power, increase back elevator pressure, and level the wings.
- B) Reduce power, level the wings, bring pitch attitude to level flight.
- C) Level the wings, raise the nose of the aircraft to level flight attitude, and obtain desired airspeed.

54. H808 IRA

(Refer to figure 83.) Which altimeter depicts 12,000 feet?

- A) 2.
- B) 3.
- C) 4.

55. H810 IRA

When an aircraft is accelerated, some attitude indicators will precess and incorrectly indicate a

- A) climb.
- B) descent.
- C) right turn.

56. H812 IRA

Which condition during taxi is an indication that an attitude indicator is unreliable?

- A) The horizon bar tilts more than 5° while making taxi turns.
- B) The horizon bar vibrates during warmup.
- C) The horizon bar does not align itself with the miniature airplane after warmup.

57. L59 IRA

Which practical test should be made on the electric gyro instruments prior to starting an engine?

- A) Check that the electrical connections are secure on the back of the instruments.
- B) Check that the attitude of the miniature aircraft is wings level before turning on electrical power.
- C) Turn on the electrical power and listen for any unusual or irregular mechanical noise.

58. H809 IRA

What should be the indication on the magnetic compass as you roll into a standard-rate turn to the left from an east heading in the Northern Hemisphere?

- A) The compass will initially indicate a turn to the right.
- B) The compass will remain on east for a short time, then gradually catch up to the magnetic heading of the aircraft.
- C) The compass will indicate the approximate correct magnetic heading if the roll into the turn is smooth.

59. H758 IRA

What should be the indication on the magnetic compass as you roll into a standard rate turn to the left from a north heading in the Northern Hemisphere?

- A) The compass will indicate a turn to the left, but at a faster rate than is actually occurring.
- B) The compass will initially indicate a turn to the right.
- C) The compass will remain on north for a short time, then gradually catch up to the magnetic heading of the aircraft.

60. H758 IRA

What should be the indication on the magnetic compass as you roll into a standard rate turn to the right from a westerly heading in the Northern Hemisphere?

- A) The compass will initially show a turn in the opposite direction, then turn to a northerly indication but lagging behind the actual heading of the aircraft.
- B) The compass will remain on a westerly heading for a short time, then gradually catch up to the actual heading of the aircraft.
- C) The compass will indicate the approximate correct magnetic heading if the roll into the turn is smooth.

61. L59 IRA

What indications should you observe on the turn and slip indicator during taxi?

- A) The ball moves freely opposite the turn, and the needle deflects in the direction of the turn.

- B) The needle deflects in the direction of the turn, but the ball remains centered.
- C) The ball deflects opposite the turn, but the needle remains centered.

62. H810 IRA

If a half standard-rate turn is maintained, how long would it take to turn 360°?

- A) 1 minute.
- B) 2 minutes.
- C) 4 minutes.

63. J17 IRA

What action should you take if your No. 1 VOR receiver malfunctions while operating in controlled airspace under IFR? Your aircraft is equipped with two VOR receivers. The No. 1 receiver has VOR/Localizer/Glide Slope capability, and the No. 2 receiver has only VOR/Localizer capability.

- A) Report the malfunction immediately to ATC.
- B) Continue the flight as cleared; no report is required.
- C) Continue the approach and request a VOR or NDB approach.

64. J34 IRA

(Refer to figures 76 and 77.) Which en route low altitude navigation chart would cover the proposed routing at the BOZEMAN VORTAC?

- A) L 2.
- B) L 7.
- C) L 9.

65. J34 IRA

Preferred IFR routes beginning with a fix, indicate that departing aircraft will normally be routed to the fix by

- A) the established airway(s) between the departure airport and the fix.
- B) an instrument departure procedure (DP), or radar vectors.
- C) direct route only.

66. J40 IRA

(Refer to figure 30.) Which restriction to the use of the OED VORTAC would be applicable to the (GNATS1.MOURN) departure?

- A) R 333 beyond 30 NM below 6,500 feet.
- B) R 210 beyond 35 NM below 8,500 feet.
- C) R 251 within 15 NM below 6,100 feet.

67. J26 IRA

While you are flying at FL 250, you hear ATC give an altimeter setting of 28.92 inches Hg in your area. At what pressure altitude are you flying?

- A) 24,000 feet.
- B) 25,000 feet.
- C) 26,000 feet.

68. J33 IRA

MEA is an altitude which assures

- A) obstacle clearance, accurate navigational signals from more than one VORTAC, and accurate DME mileage.
- B) a 1,000-foot obstacle clearance within 2 miles of an airway and assures accurate DME mileage.
- C) acceptable navigational signal coverage and meets obstruction clearance requirements.

69. J33 IRA

Acceptable navigational signal coverage at the MOCA is assured for a distance from the VOR of only

- A) 12 NM.
- B) 22 NM.
- C) 25 NM.

70. J17 IRA

Unless otherwise specified on the chart, the minimum en route altitude along a jet route is

- A) 18,000 feet MSL.
- B) 24,000 feet MSL.
- C) 10,000 feet MSL.

71. J14 IRA

To comply with ATC instructions for altitude changes of more than 1,000 feet, what rate of climb or descent should be used?

- A) As rapidly as practicable to 500 feet above/below the assigned altitude, and then at 500 feet per minute until the assigned altitude is reached.
- B) 1,000 feet per minute during climb and 500 feet per minute during descents until reaching the assigned altitude.
- C) As rapidly as practicable to 1,000 feet above/below the assigned altitude, and then between 500 and 1,500 feet per minute until reaching the assigned altitude.

72. J17 IRA

(Refer to figure 87.) At STRUT intersection headed eastbound, ATC instructs you to hold west on the 10 DME fix west of LCH on V306, standard turns, what entry procedure is recommended?

- A) Direct.
- B) Teardrop.
- C) Parallel.

73. J17 IRA

(Refer to figure 114.) A pilot receives this ATC clearance:

'...CLEARED TO THE XYZ VORTAC. HOLD NORTH ON THE THREE SIX ZERO RADIAL, LEFT TURNS...'

What is the recommended procedure to enter the holding pattern?

- A) Teardrop only.
- B) Parallel only.
- C) Direct only.

74. J17 IRA

(Refer to figure 114.) A pilot receives this ATC clearance:

'...CLEARED TO THE ABC VORTAC. HOLD SOUTH ON THE ONE EIGHT ZERO RADIAL...'

What is the recommended procedure to enter the holding pattern?

- A) Teardrop only.
- B) Parallel only.
- C) Direct only.

75. J19 IRA

What altitude may a pilot select upon receiving a VFR on Top clearance?

- A) Any altitude at least 1,000 feet above the meteorological condition.
- B) Any appropriate VFR altitude at or above the MEA in VFR weather conditions.
- C) Any VFR altitude appropriate for the direction of flight at least 1,000 feet above the meteorological condition.

76. H948 IRA

(Refer to figures 21, 22, and 24.) What fuel would be consumed on the flight between Grand Junction Co. and Durango, Co. if the average fuel consumption is 15 GPH.

- A) 17 gallons.
- B) 20 gallons.
- C) 25 gallons.

77. H948 IRA

(Refer to figures 21 and 21A, 22 and 22A, 23, 24, 25, and 26.) After departing GJT and arriving at Durango Co., La Plata Co. Airport, you are unable to land because of weather.

How long can you hold over DRO before departing for return flight to the alternate, Grand Junction Co., Walker Field Airport?

Total useable fuel on board, 68 gallons.

Wind and velocity at 16,000, 2308-16°.

Average fuel consumption 15 GPH.

A) 1 hour 33 minutes.

B) 1 hour 37 minutes.

C) 1 hour 42 minutes.

78. H948 IRA

(Refer to figure 91.) What should be the approximate elapsed time from BZN VOR to DBS VORTAC, if the wind is 24 knots from 260° and your intended TAS is 185 knots? (VAR 17 °E.)

A) 33 minutes.

B) 37 minutes.

C) 39 minutes.

79. H1414 IRA

An airport may not be qualified for alternate use if

A) the airport has AWOS-3 weather reporting.

B) the airport is located next to a restricted or prohibited area.

C) the NAVAIDS used for the final approach are unmonitored.

80. H830 IRA

(Refer to figure 105.) If the magnetic heading shown for aircraft 7 is maintained, which ADF illustration would indicate the aircraft is on the 120° magnetic bearing FROM the station?

A) 2.

B) 4.

C) 5.

81. H830 IRA

(Refer to figure 101.) What is the magnetic bearing TO the station?

A) 060°.

B) 260°.

C) 270°.

82. J01 IRA

Which DME indication should you receive when you are directly over a VORTAC site at approximately 6,000 feet AGL?

A) 0.

- B) 1.
- C) 1.3.

83. J40 IRA

(Refer to figures 46 and 48.) What is your position relative to the 9 DME ARC and the 206° radial of the instrument departure procedure?

- A) On the 9 DME arc and approaching R 206.
- B) Outside the 9 DME arc and past R 206.
- C) Inside the 9 DME arc and approaching R 206.

84. H1401 IRA

What are the primary benefits of satellite based area navigation (RNAV)?

- A) Provides optimal routing and altitudes.
- B) Radio tuning and controller communication is minimized.
- C) Standard Terminal Arrival Routes and Departure Procedures are not required

85. H831 IRA

Full scale deflection of a CDI occurs when the course deviation bar or needle

- A) deflects from left side of the scale to right side of the scale.
- B) deflects from the center of the scale to either far side of the scale.
- C) deflects from half scale left to half scale right.

86. H842 IRA

(Refer to figure 78.) When eastbound on V86 between Whitehall and Livingston, the minimum altitude that you should cross BZN is

- A) 10,400 feet.
- B) 9,300 feet.
- C) 8,500 feet.

87. J35 IRA

On what frequency should you obtain En Route Flight Advisory Service below FL 180?

- A) 122.1T/112.8R.
- B) 123.6.
- C) 122.0.

88. J35 IRA

(Refer to figure 89.) When flying from Milford Municipal to Bryce Canyon via V235 and V293, what minimum altitude should you be at when crossing Cedar City VOR?

- A) 11,400 feet.

B) 12,000 feet.

C) 13,000 feet.

89.

J35

IRA

(Refer to figure 91.) What is the minimum crossing altitude at DBS VORTAC for a northbound IFR flight on V257?

A) 7,500 feet.

B) 8,600 feet.

C) 11,100 feet.

90.

J35

IRA

(Refer to figure 47.) En route on V112 from BTG VORTAC to LTJ VORTAC, the minimum altitude crossing Gymme intersection is

A) 6,400 feet.

B) 6,500 feet.

C) 7,000 feet.

91.

J35

IRA

(Refer to figure 47.) En route on V468 from BTG VORTAC to YKM VORTAC, the minimum altitude at TROTS intersection is

A) 7,100 feet.

B) 10,000 feet.

C) 11,500 feet.

92.

J16

IRA

What does the symbol T within a black triangle in the minimums section of the IAP for a particular airport indicate?

A) Takeoff minimums are 1 mile for aircraft having two engines or less and 1/2 mile for those with more than two engines.

B) Instrument takeoffs are not authorized.

C) Takeoff minimums are not standard and/or departure procedures are published.

93.

J42

IRA

(Refer to figure 130.) How should the pilot identify the missed approach point for the S LDA GS 6 approach to Roanoke Regional?

A) Arrival at 1,540 feet on the glide slope.

B) Arrival at 1.0 DME on the LDA course.

C) Time expired for distance from OM to MAP.

94. J42 IRA

(Refer to figure 131.) Other than VOR/DME RNAV, what additional navigation equipment is required to conduct the VOR/DME RNAV RWY 4R approach at BOS?

- A) None.
- B) VNAV.
- C) Transponder with altitude encoding and Marker Beacon.

95. J42 IRA

(Refer to figure 133.) What is the minimum altitude descent procedure if cleared for the S ILS 9 approach from Seal Beach VORTAC?

- A) Descend and maintain 3,000 to JASER INT, descend to and maintain 2,500 until crossing SWAN LAKE, descend and maintain 1,260 until crossing AGNES, and to 991 (DH) after passing AGNES.
- B) Descend and maintain 3,000 to JASER INT, descend to 2,800 when established on the LOC course, intercept and maintain the GS to 991 (DH).
- C) Descend and maintain 3,000 to JASER INT, descend to 2,500 while established on the LOC course in bound, intercept and maintain the GS to 991 (DH).

96. J42 IRA

(Refer to figure 131.) The control tower at BOS reports 'tall vessels' in the approach area. What are the VOR/DME RNAV RWY 4R straight-in approach minimums for Category A aircraft.

- A) 840/40
- B) 890/24.
- C) 890/40.

97. J42 IRA

How does a pilot determine if DME is available on an ILS/LOC?

- A) IAP indicate DME\TACAN channel in LOC frequency box.
- B) LOC\DME are indicated on en route low altitude frequency box.
- C) LOC\DME frequencies available in the Airman's Information Manual.

98. J18 IRA

(Refer to figure 128.) What is the purpose of the 10,300 MSA on the Price/Carbon County Airport Approach Chart?

- A) It provides safe clearance above the highest obstacle in the defined sector out to 25 NM.
- B) It provides an altitude above which navigational course guidance is assured.
- C) It is the minimum vector altitude for radar vectors in the sector southeast of PUC between 020° and 290° magnetic bearing to PUC VOR.

99. J42 IRA

(Refer to figure 129.) What is the position of LABER relative to the reference facility?

- A) 316°, 24.3 NM.
- B) 177°, 10 NM.
- C) 198°, 8 NM.

100. J42 IRA

(Refer to figure 130.) What are the procedure turn restrictions on the LDA RWY 6 approach at Roanoke Regional?

- A) Remain within 10 NM of CLAMM INT and on the north side of the approach course.
- B) Remain within 10 NM of the airport on the north side of the approach course.
- C) Remain within 10 NM of the outer marker on the north side of the approach course.

101. J42 IRA

(Refer to figure 130.) What are the restrictions regarding circle to land procedures for LDA RWY/GS 6 approach at Roanoke Regional?

- A) Circling to runway 24 not authorized.
- B) Circling not authorized NW of RWY 6 24.
- C) Visibility increased 1/2 mile for circling approach.

102. J42 IRA

(Refer to figure 124.) The point on the teardrop procedure where the turn in bound (LOC RWY 35) Duncan/Halliburton, is initiated is determined by

- A) DME and timing to remain within the 10-NM limit.
- B) Timing for a 2 minute maximum.
- C) Estimating ground speed and radius of turn.

103. J42 IRA

(Refer to figure 122.) The missed approach point of the ATL S-LOC 8L procedure is located how far from the LOM?

- A) 4.8 NM.
- B) 5.1 NM.
- C) 5.2 NM.

104. J42 IRA

(Refer to figure 123.) What minimum navigation equipment is required to complete the VOR/DME-A procedure?

- A) One VOR receiver.
- B) One VOR receiver and DME.
- C) Two VOR receivers and DME.

105. J42 IRA

(Refer to figure 124.) What options are available concerning the teardrop course reversal for LOC RWY 35 approach to Duncan/Halliburton Field?

- A) If a course reversal is required, only the teardrop can be executed.
- B) The point where the turn is begun and the type and rate of turn are optional.
- C) A normal procedure turn may be made if the 10 DME limit is not exceeded.

106. J42 IRA

(Refer to figure 126.) What landing minimums apply for a 14 CFR part 91 operator at Dothan, AL, using a category C aircraft during a circling LOC 31 approach at 120 knots? (DME available).

- A) MDA 860 feet MSL and visibility 2 SM.
- B) MDA 860 feet MSL and visibility 1 and 1/2 SM.
- C) MDA 720 feet MSL and visibility 3/4 SM.

107. J42 IRA

(Refer to figure 126.) What is the ability to identify the RRS 2.5 stepdown fix worth in terms of localizer circle-to-land minimums for a category C aircraft?

- A) Decreases MDA by 20 feet.
- B) Decreases visibility by 1/2 SM.
- C) Without the stepdown fix, a circling approach is not available.

108. J42 IRA

(Refer to figure 127.) If cleared for NDB RWY 28 approach (Lancaster/Fairfield) over ZZV VOR, the flight would be expected to

Category A aircraft

Last assigned altitude 3,000 feet

- A) proceed straight in from CRISY, descending to MDA after Caser.
- B) proceed to CRISY, then execute the teardrop procedure as depicted on the approach chart.
- C) proceed direct to CASER, then straight in to S-28 minimums of 1620-1.

109. J42 IRA

(Refer to figure 123.) The symbol on the plan view of the VOR/DME-A procedure at 7D3 represents a minimum safe sector altitude within 25 NM of

- A) DEANI intersection.
- B) White Cloud VORTAC.
- C) Baldwin Municipal Airport.

110. J01 IRA

(Refer to figure 130.) How does an LDA facility, such as the one at Roanoke Regional, differ from a standard ILS approach facility?

- A) The LOC is wider.
- B) The LOC is offset from the runway.
- C) The GS is unusable beyond the MM.

111. J01 IRA

By which means may a pilot determine if a Loran C equipped aircraft is approved for IFR operations?

- A) Not necessary; Loran C is not approved for IFR.
- B) Check aircraft logbook.
- C) Check the Airplane Flight Manual Supplement.

112. H1400 IRA

What information is contained in the Notices to Airman Publication (NTAP)?

- A) Current NOTAM (D) and FDC NOTAMs.
- B) All Current NOTAMs.
- C) Current NOTAM (L) and FDC NOTAMs.

113. A20 IRA

No pilot may act as pilot-in-command of an aircraft, under IFR or in weather conditions less than the minimums prescribed for VFR unless that pilot has, within the preceding 6 calendar months, completed at least

- A) three instrument approaches and logged 3 hours.
- B) six instrument flights under actual IFR conditions.
- C) six instrument approaches, holding procedures, intercepting and tracking courses using navigational systems, or passed an instrument proficiency check.

114. A20 IRA

A pilot's recent IFR experience expires on July 1 of this year. What is the latest date the pilot can meet the IFR experience requirement without having to take an instrument proficiency check?

- A) December 31, this year.
- B) June 30, next year.
- C) July 31, this year.

115. A20 IRA

After your recent IFR experience lapses, how much time do you have before you must pass an instrument competency check to act as pilot in command under IFR?

- A) 6 months.

- B) 90 days.
- C) 12 months.

116. A20 IRA

To meet instrument experience requirements of 14 CFR part 61, section 61.57(c), a pilot enters the condition of flight in the pilot logbook as simulated instrument conditions. What other qualifying information must be entered?

- A) Location and type of each instrument approach completed and name of safety pilot.
- B) Number and type of instrument approaches completed and route of flight.
- C) Name and pilot certificate number of safety pilot and type of approaches completed.

117. A20 IRA

What portion of dual instruction time may a certificated instrument flight instructor log as instrument flight time?

- A) All time during which the instructor acts as instrument instructor, regardless of weather conditions.
- B) All time during which the instructor acts as instrument instructor in actual instrument weather conditions.
- C) Only the time during which the instructor flies the aircraft by reference to instruments.

118. B10 IRA

What are the minimum weather conditions that must be forecast to list an airport as an alternate when the airport has no approved IAP?

- A) The ceiling and visibility at ETA, 2,000 feet and 3 miles, respectively.
- B) The ceiling and visibility from 2 hours before until 2 hours after ETA, 2,000 feet and 3 miles, respectively.
- C) The ceiling and visibility at ETA must allow descent from MEA, approach, and landing, under basic VFR.

119. B10 IRA

What minimum weather conditions must be forecast for your ETA at an alternate airport, that has only a VOR approach with standard alternate minimums, for the airport to be listed as an alternate on the IFR flight plan?

- A) 800 foot ceiling and 1 statute mile visibility.
- B) 800 foot ceiling and 2 statute miles visibility.
- C) 1,000 foot ceiling and visibility to allow descent from minimum en route altitude (MEA), approach, and landing under basic VFR.

120. B10 IRA

For aircraft other than helicopters, what minimum conditions must exist at the destination airport to avoid listing an alternate airport on an IFR flight plan when a standard IAP is available?

- A) From 2 hours before to 2 hours after ETA, forecast ceiling 2,000, and visibility 2 and 1/2 miles.
- B) From 2 hours before to 2 hours after ETA, forecast ceiling 3,000, and visibility 3 miles.
- C) From 1 hour before to 1 hour after ETA, forecast ceiling 2,000, and visibility 3 miles.

121. B10 IRA

What point at the destination should be used to compute estimated time en route on an IFR flight plan?

- A) The final approach fix on the expected instrument approach.
- B) The initial approach fix on the expected instrument approach.
- C) The point of first intended landing.

122. B10 IRA

What are the minimum fuel requirements in IFR conditions, if the first airport of intended landing is forecast to have a 1,500 foot ceiling and 3 miles visibility at flight-planned ETA? Fuel to fly to the first airport of intended landing,

- A) and fly thereafter for 45 minutes at normal cruising speed.
- B) fly to the alternate, and fly thereafter for 45 minutes at normal cruising speed.
- C) fly to the alternate, and fly thereafter for 30 minutes at normal cruising speed.

123. B08 IRA

What action should you take if your DME fails at FL 240?

- A) Advise ATC of the failure and land at the nearest available airport where repairs can be made.
- B) Notify ATC that it will be necessary for you to go to a lower altitude, since your DME has failed.
- C) Notify ATC of the failure and continue to the next airport of intended landing where repairs can be made.

124. B11 IRA

An aircraft operated under 14 CFR part 91 IFR is required to have which of the following?

- A) Radar altimeter.
- B) Dual VOR system.
- C) Gyroscopic direction indicator.

125. B08 IRA

What are the minimum qualifications for a person who occupies the other control seat as safety pilot during simulated instrument flight?

- A) Private pilot certificate with appropriate category and class ratings for the aircraft.
- B) Private pilot with appropriate category, class, and instrument ratings.

C) Private pilot with instrument rating.

126. B11 IRA

If an unpressurized aircraft is operated above 12,500 feet MSL, but not more than 14,000 feet MSL, for a period of 2 hours 20 minutes, how long during that time is the minimum flightcrew required to use supplemental oxygen?

- A) 2 hours 20 minutes.
- B) 1 hour 20 minutes.
- C) 1 hour 50 minutes.

127. B11 IRA

(Refer to figure 89.) What are the oxygen requirements for an IFR flight northeast bound from Bryce Canyon on V382 at the lowest appropriate altitude in an unpressurized aircraft?

- A) The required minimum crew must be provided and use supplemental oxygen for that part of the flight of more than 30 minutes.
- B) The required minimum crew must be provided and use supplemental oxygen for that part of the flight of more than 30 minutes, and the passengers must be provided supplemental oxygen.
- C) The required minimum crew must be provided and use supplemental oxygen, and all occupants must be provided supplemental oxygen for the entire flight above 15,000 feet.

128. B10 IRA

When must an operational check on the aircraft VOR equipment be accomplished when used to operate under IFR?

- A) Within the preceding 10 days or 10 hours of flight time.
- B) Within the preceding 30 days or 30 hours of flight time.
- C) Within the preceding 30 days.

129. B10 IRA

When making an airborne VOR check, what is the maximum allowable tolerance between the two indicators of a dual VOR system (units independent of each other except the antenna)?

- A) 4° between the two indicated bearings of a VOR.
- B) Plus or minus 4° when set to identical radials of a VOR.
- C) 6° between the two indicated radials of a VOR.

130. I57 IRA

'WND' in the categorical outlook in the Aviation Area Forecast means that the wind during that period is forecast to be

- A) At least 6 knots or stronger.
- B) At least 15 knots or stronger.
- C) At least 20 knots or stronger.

131. I57 IRA

If squalls are reported at your destination, what wind conditions should you anticipate?

- A) Sudden increases in wind speed of at least 16 knots, rising to 22 knots or more, lasting for at least 1 minute.
- B) Peak gusts of at least 35 knots for a sustained period of 1 minute or longer.
- C) Rapid variation in wind direction of at least 20° and changes in speed of at least 10 knots between peaks and lulls.

132. I28 IRA

Where does wind shear occur?

- A) Exclusively in thunderstorms.
- B) Wherever there is an abrupt decrease in pressure and/or temperature.
- C) With either a wind shift or a wind speed gradient at any level in the atmosphere.

133. K04 IRA

While flying a 3° glide slope, a headwind shears to a tailwind. Which conditions should the pilot expect on the glide slope?

- A) Airspeed and pitch attitude decrease and there is a tendency to go below glide slope.
- B) Airspeed and pitch attitude increase and there is a tendency to go above glide slope.
- C) Airspeed and pitch attitude decrease and there is a tendency to remain on the glide slope.

134. K04 IRA

When a climb or descent through an inversion or wind shear zone is being performed, the pilot should be alert for which of the following change in airplane performance?

- A) A fast rate of climb and a slow rate of descent.
- B) A sudden change in airspeed.
- C) A sudden surge of thrust.

135. I29 IRA

Why is frost considered hazardous to flight operation?

- A) Frost changes the basic aerodynamic shape of the airfoil.
- B) Frost decreases control effectiveness.
- C) Frost causes early airflow separation resulting in a loss of lift.

136. I29 IRA

In which meteorological environment is aircraft structural icing most likely to have the highest rate of accumulation?

- A) Cumulonimbus clouds.

B) High humidity and freezing temperature.

C) Freezing rain.

137. H703 IRA

What force causes a helicopter to turn?

A) Rudder pressure or force around the vertical axis.

B) Vertical lift component.

C) Horizontal lift component.

138. J26 IRA

If you are departing from an airport where you cannot obtain an altimeter setting, you should set your altimeter

A) on 29.92 inches Hg.

B) on the current airport barometric pressure, if known.

C) to the airport elevation.

139. H808 IRA

How can you obtain the pressure altitude on flights below 18,000 feet?

A) Set your altimeter to 29.92 inches Hg.

B) Use your computer to change the indicated altitude to pressure altitude.

C) Contact an FSS and ask for the pressure altitude.

140. J08 IRA

When are you required to establish communications with the tower, (Class D airspace) if you cancel your IFR flight plan 10 miles from the destination?

A) Immediately after canceling the flight plan.

B) When advised by ARTCC.

C) Before entering Class D airspace.

141. J08 IRA

Which airspace is defined as a transition area when designated in conjunction with an airport which has a prescribed IAP?

A) The Class E airspace extending upward from 700 feet or more above the surface and terminating at the base of the overlying controlled airspace.

B) That Class D airspace extending from the surface and terminating at the base of the continental control area.

C) The Class C airspace extending from the surface to 700 or 1,200 feet AGL, where designated.

142. J08 IRA

What are the vertical limits of a transition area that is designated in conjunction with an airport having a prescribed IAP?

- A) Surface to 700 feet AGL.
- B) 1,200 feet AGL to the base of the overlying controlled airspace.
- C) 700 feet AGL or more to the base of the overlying controlled airspace.

143. J09 IRA

MOAs are established to

- A) prohibit all civil aircraft because of hazardous or secret activities.
- B) separate certain military activities from IFR traffic.
- C) restrict civil aircraft during periods of high density training activities.

144. J07 IRA

Class G airspace is that airspace where

- A) ATC does not control air traffic.
- B) ATC controls only IFR flights.
- C) the minimum visibility for VFR flight is 3 miles.

145. K04 IRA

The rate of descent required to stay on the ILS glide slope

- A) must be increased if the ground speed is decreased.
- B) will remain constant if the indicated airspeed remains constant.
- C) must be decreased if the ground speed is decreased.

146. J14 IRA

While on an IFR flight, a pilot has an emergency which causes a deviation from an ATC clearance. What action must be taken?

- A) Notify ATC of the deviation as soon as possible.
- B) Squawk 7700 for the duration of the emergency.
- C) Submit a detailed report to the chief of the ATC facility within 48 hours.

147. J21 IRA

During an IFR flight in IMC, a distress condition is encountered, (fire, mechanical, or structural failure). The pilot should

- A) not hesitate to declare an emergency and obtain an amended clearance.
- B) wait until the situation is immediately perilous before declaring an emergency.
- C) contact ATC and advise that an urgency condition exists and request priority consideration.

148. J21 IRA

Which procedure should you follow if you experience two-way communications failure while holding at a holding fix with an EFC time? (The holding fix is not the same as the approach fix.)

- A) Depart the holding fix to arrive at the approach fix as close as possible to the EFC time.
- B) Depart the holding fix at the EFC time.
- C) Proceed immediately to the approach fix and hold until EFC.

149. J21 IRA

During an IFR flight in IMC, you enter a holding pattern (at a fix that is not the same as the approach fix) with an EFC time of 1530. At 1520 you experience complete two-way communications failure. Which procedure should you follow to execute the approach to a landing?

- A) Depart the holding fix to arrive at the approach fix as close as possible to the EFC time and complete the approach.
- B) Depart the holding fix at the EFC time, and complete the approach.
- C) Depart the holding fix at the earliest of the flight planned ETA or the EFC time, and complete the approach.

150. J40 IRA

(Refer to figure 85.) What procedure should be followed if communications are lost before reaching 9,000 feet?

- A) At 9,000, turn left direct to FMG VORTAC, then via assigned route if at proper altitude; if not, climb in holding pattern until reaching the proper altitude.
- B) Continue climb to WAGGE INT, turn left direct to FMG VORTAC, then if at or above MCA, proceed on assigned route; if not, continue climb in holding pattern until at the proper altitude.
- C) Continue climb on LOC course to cross WAGGE INT at or above 9,000, turn left direct to FMG VORTAC to cross at 10,000 or above, and continue on assigned course.

151. J24 IRA

You are in IMC and have two way radio communications failure. If you do not exercise emergency authority, what procedure are you expected to follow?

- A) Set transponder to code 7600, continue flight on assigned route and fly at the last assigned altitude or the MEA, whichever is higher.
- B) Set transponder to code 7700 for 1 minute, then to 7600, and fly to an area with VFR weather conditions.
- C) Set transponder to 7700 and fly to an area where you can let down in VFR conditions.

152. J31 IRA

What effect does haze have on the ability to see traffic or terrain features during flight?

- A) Haze causes the eyes to focus at infinity, making terrain features harder to see.
- B) The eyes tend to overwork in haze and do not detect relative movement easily.

C) Haze creates the illusion of being a greater distance than actual from the runway, and causes pilots to fly a lower approach.

153. J31 IRA

The sensations which lead to spatial disorientation during instrument flight conditions

A) are frequently encountered by beginning instrument pilots, but never by pilots with moderate instrument experience.

B) occur, in most instances, during the initial period of transition from visual to instrument flight.

C) must be suppressed and complete reliance placed on the indications of the flight instruments.

154. J14 IRA

What is the significance of an ATC clearance which reads '... CRUISE SIX THOUSAND ...'?

A) The pilot must maintain 6,000 feet until reaching the IAF serving the destination airport, then execute the published approach procedure.

B) Climbs may be made to, or descents made from, 6,000 feet at the pilot's discretion.

C) The pilot may utilize any altitude from the MEA/MOCA to 6,000 feet, but each change in altitude must be reported to ATC.

155. J17 IRA

During the en route phase of an IFR flight, the pilot is advised 'Radar service terminated.' What action is appropriate?

A) Set transponder to code 1200.

B) Resume normal position reporting.

C) Activate the IDENT feature of the transponder to re establish radar contact.

156. J19 IRA

Under which of the following circumstances will ATC issue a VFR restriction to an IFR flight?

A) Whenever the pilot reports the loss of any navigational aid.

B) When it is necessary to provide separation between IFR and special VFR traffic.

C) When the pilot requests it.

157. J14 IRA

What reports are required of a flight operating on an IFR clearance specifying VFR on Top in a nonradar environment?

A) The same reports that are required for any IFR flight.

B) All normal IFR reports except vacating altitudes.

C) Only the reporting of any unforecast weather.

158. J42 IRA

(Refer to figure 68.) Upon which maximum airspeed is the COPTER VOR/DME 117° approach category based?

- A) 80 knots.
- B) 90 knots.
- C) 100 knots.

159. H1465 IRA

Which of the following are required for a helicopter ILS approach with a decision height lower than 200 feet HAT?

- A) Special aircrew training and aircraft certification.
- B) Both a marker beacon and a radio altimeter.
- C) ATP helicopter certificate and CAT II certification.

160. J18 IRA

During an instrument approach, under what conditions, if any, is the holding pattern course reversal not required?

- A) When radar vectors are provided.
- B) When cleared for the approach.
- C) None, since it is always mandatory.

161. J18 IRA

(Refer to figure 125.) If cleared for an S-LOC 17R approach at Lincoln Municipal from over TOUHY, it means the flight should

- A) land straight in on runway 17R.
- B) comply with straight-in landing minimums.
- C) begin final approach without making a procedure turn.

162. J42 IRA

(Refer to figures 56, 60A.) To which value may the visibility criteria be reduced, if any, for the S ILS 4 approach?

- A) RVR 20.
- B) RVR 16.
- C) RVR 12.

163. J18 IRA

You arrive at your destination airport on an IFR flight plan. Which is a prerequisite condition for the performance of a contact approach?

- A) Clear of clouds and at least 1 SM flight visibility.
- B) A ground visibility of at least 2 SM.

C) A flight visibility of at least 1/2 NM.

164. H816 IRA

Which instruments are considered primary and supporting for bank, respectively, when establishing a level standard-rate turn?

- A) Turn coordinator and attitude indicator.
- B) Attitude indicator and turn coordinator.
- C) Turn coordinator and heading indicator.

165. H814 IRA

Which instrument provides the most pertinent information (primary) for bank control in straight-and-level flight?

- A) Turn and slip indicator.
- B) Attitude indicator.
- C) Heading indicator.

166. H813 IRA

What is the third fundamental skill in attitude instrument flying?

- A) Instrument cross-check.
- B) Power control.
- C) Aircraft control.

167. H818 IRA

(Refer to figure 148.) What is the flight attitude? One system which transmits information to the instruments has malfunctioned.

- A) Climbing turn to left.
- B) Climbing turn to right.
- C) Level turn to left.

168. H827 IRA

During a stabilized autorotation, approximately what flight attitude should be established on the attitude indicator?

- A) Two bar widths below the artificial horizon.
- B) A pitch attitude that will give an established rate of descent of not more than 500 feet per minute.
- C) Level flight attitude.

169. H827 IRA

What is the primary pitch instrument during a stabilized autorotation?

- A) Altimeter.

B) Airspeed indicator.

C) VSI.

170. H822 IRA

Which initial pitch attitude change on the attitude indicator should be made to correct altitude while at normal cruise in a helicopter?

A) Two bar width.

B) One and one half bar width.

C) One bar width.

171. H828 IRA

During the initial acceleration on an instrument takeoff in a helicopter, what flight attitude should be established on the attitude indicator?

A) Level flight attitude.

B) Two bar widths low.

C) One bar width high.

172. H816 IRA

Which instrument is considered primary for power as the airspeed reaches the desired value during change of airspeed in a level turn?

A) Airspeed indicator.

B) Attitude indicator.

C) Altimeter.

173. H810 IRA

Errors in both pitch and bank indication on an attitude indicator are usually at a maximum as the aircraft rolls out of a

A) 180° turn.

B) 270° turn.

C) 360° turn.

174. H810 IRA

One characteristic that a properly functioning gyro depends upon for operation is the

A) ability to resist precession 90° to any applied force.

B) resistance to deflection of the spinning wheel or disc.

C) deflecting force developed from the angular velocity of the spinning wheel.

175. H933 IRA

What should be the indication on the magnetic compass as you roll into a standard-rate turn to the right from a south heading in the Northern Hemisphere?

- A) The compass will indicate a turn to the right, but at a faster rate than is actually occurring.
- B) The compass will initially indicate a turn to the left.
- C) The compass will remain on south for a short time, then gradually catch up to the magnetic heading of the aircraft.

176. H809 IRA

What causes the northerly turning error in a magnetic compass?

- A) Coriolis force at the mid latitudes.
- B) Centrifugal force acting on the compass card.
- C) The magnetic dip characteristic.

177. H816 IRA

What indication is presented by the miniature aircraft of the turn coordinator?

- A) Indirect indication of the bank attitude.
- B) Direct indication of the bank attitude and the quality of the turn.
- C) Quality of the turn.

178. H814 IRA

(Refer to figure 144.) Which illustration indicates a coordinated turn?

- A) 3.
- B) 1.
- C) 2.

179. H758 IRA

(Refer to figure 144.) Which illustration indicates a coordinated turn?

- A) 3.
- B) 1.
- C) 2.

180. H758 IRA

(Refer to figure 144.) What changes in control displacement should be made so that '2' would result in a coordinated standard-rate turn?

- A) Increase left pedal and increase rate of turn.
- B) Increase left pedal and decrease rate of turn.
- C) Decrease left pedal and decrease angle of bank.

181. H758 IRA

(Refer to figure 144.) Which illustration indicates a slipping turn?

- A) 1.
- B) 3.
- C) 2.

182. H814 IRA

(Refer to figure 144.) Which illustration indicates a slipping turn?

- A) 1.
- B) 3.
- C) 2.

183. L59 IRA

Prior to starting an engine, you should check the turn and slip indicator to determine if the

- A) needle indication properly corresponds to the angle of the wings or rotors with the horizon.
- B) needle is approximately centered and the tube is full of fluid.
- C) ball will move freely from one end of the tube to the other when the aircraft is rocked.

184. H807 IRA

Which instrument indicates the quality of a turn?

- A) Attitude indicator.
- B) Heading indicator or magnetic compass.
- C) Ball of the turn coordinator.

185. H807 IRA

If a standard-rate turn is maintained, how much time would be required to turn to the left from a heading of 090° to a heading of 300°?

- A) 30 seconds.
- B) 40 seconds.
- C) 50 seconds.

186. J40 IRA

(Refer to figure 85.) What route should you take if cleared for the Washoe Two Departure and your assigned route is V6?

- A) Climb on the LOC south course to WAGGE where you will be vectored to V6.
- B) Climb on the LOC south course to cross WAGGE at 9,000, turn left and fly direct to FMG VORTAC and cross at or above 10,000, and proceed on FMG R 241.
- C) Climb on the LOC south course to WAGGE, turn left and fly direct to FMG VORTAC. If at 10,000 turn left and proceed on FMG R 241; if not at 10,000 enter depicted holding pattern and climb to 10,000 before proceeding on FMG R 241.

187. J16 IRA

Which is true regarding the use of a instrument departure procedure chart?

- A) The use of instrument departure procedures is mandatory.
- B) To use an instrument departure procedure, the pilot must possess at least the textual description of the approved standard departure.
- C) To use an instrument departure procedure, the pilot must possess both the textual and graphic form of the approved procedure.

188. J26 IRA

En route at FL 290, your altimeter is set correctly, but you fail to reset it to the local altimeter setting of 30.26 inches Hg during descent. If the field elevation is 134 feet and your altimeter is functioning properly, what will it indicate after landing?

- A) 100 feet MSL.
- B) 474 feet MSL.
- C) 206 feet below MSL.

189. J26 IRA

How does a pilot normally obtain the current altimeter setting during an IFR flight in Class E airspace below 18,000 feet?

- A) The pilot should contact ARTCC at least every 100 NM and request the altimeter setting.
- B) FSS's along the route broadcast the weather information at 15 minutes past the hour.
- C) ATC periodically advises the pilot of the proper altimeter setting.

190. J07 IRA

Unless otherwise prescribed, what is the rule regarding altitude and course to be maintained during an off airways IFR flight over nonmountainous terrain?

- A) 1,000 feet above the highest obstacle within 4 NM of course.
- B) 2,000 feet above the highest obstacle within 5 SM of course.
- C) 1,000 feet above the highest obstacle within 3 NM of course.

191. J33 IRA

What is the definition of MEA?

- A) The lowest published altitude which meets obstacle clearance requirements and assures acceptable navigational signal coverage.
- B) The lowest published altitude which meets obstacle requirements, assures acceptable navigational signal coverage, two way radio communications, and provides adequate radar coverage.
- C) An altitude which meets obstacle clearance requirements, assures acceptable navigation signal coverage, two way radio communications, adequate radar coverage, and accurate DME mileage.

192. J33 IRA

If no MCA is specified, what is the lowest altitude for crossing a radio fix, beyond which a higher minimum applies?

- A) The MEA at which the fix is approached.
- B) The MRA at which the fix is approached.
- C) The MOCA for the route segment beyond the fix.

193. J33 IRA

ATC may assign the MOCA when certain special conditions exist, and when within

- A) 22 NM of a VOR.
- B) 25 NM of a VOR.
- C) 30 NM of a VOR.

194. J17 IRA

(Refer to figure 113.) You receive this ATC clearance:

'...HOLD EAST OF THE ABC VORTAC ON THE ZERO NINER ZERO RADIAL, LEFT TURNS...'

What is the recommended procedure to enter the holding pattern?

- A) Parallel only.
- B) Direct only.
- C) Teardrop only.

195. J17 IRA

(Refer to figure 117.) You receive this ATC clearance:

'...CLEARED TO THE ABC NDB. HOLD SOUTHEAST ON THE ONE FOUR ZERO DEGREE BEARING FROM THE NDB. LEFT TURNS...'

At station passage you note the indications in figure 117. What is the recommended procedure to enter the holding pattern?

- A) Direct only.
- B) Teardrop only.
- C) Parallel only

196. J17 IRA

When holding at an NDB, at what point should the timing begin for the second leg outbound?

- A) When the wings are level and the wind drift correction angle is established after completing the turn to the outbound heading.
- B) When the wings are level after completing the turn to the outbound heading, or abeam the fix, whichever occurs first.
- C) When abeam the holding fix.

197. J15 IRA

What action is recommended if a pilot does not wish to use an instrument departure procedure?

- A) Advise clearance delivery or ground control before departure.
- B) Advise departure control upon initial contact.
- C) Enter 'No DP' in the REMARKS section of the IFR flight plan.

198. J40 IRA

(Refer to figure 85.) What is the minimum rate climb per NM to 9,000 feet required for the WASH2 WAGGE Departure?

- A) 400 feet.
- B) 750 feet.
- C) 875 feet.

199. H830 IRA

(Refer to figure 105.) If the magnetic heading shown for aircraft 3 is maintained, which ADF illustration would indicate the aircraft is on the 120° magnetic bearing TO the station?

- A) 4.
- B) 5.
- C) 8.

200. H830 IRA

(Refer to figure 105.) If the magnetic heading shown for aircraft 5 is maintained, which ADF illustration would indicate the aircraft is on the 210° magnetic bearing FROM the station?

- A) 2.
- B) 3.
- C) 4.

201. H830 IRA

(Refer to figure 105.) If the magnetic heading shown for aircraft 2 is maintained, which ADF illustration would indicate the aircraft is on the 255° magnetic bearing TO the station?

- A) 2.
- B) 4.
- C) 5.

202. H830 IRA

(Refer to figure 105.) If the magnetic heading shown for aircraft 1 is maintained, which ADF illustration would indicate the aircraft is on the 060° magnetic bearing TO the station?

- A) 2.

- B) 4.
- C) 5.

203. H830 IRA

(Refer to instruments in figure 103.) On the basis of this information, the magnetic bearing FROM the station would be

- A) 030°.
- B) 060°.
- C) 240°.

204. J40 IRA

(Refer to figures 85 and 86.) Which combination of indications confirm that you are approaching WAGGE intersection slightly to the right of the LOC centerline on departure?

- A) 1 and 3.
- B) 1 and 4.
- C) 2 and 3.

205. J35 IRA

(Refer to figure 89.) What type airspace exists above Bryce Canyon Airport from the surface to 1,200 feet AGL?

- A) Class D.
- B) Class E.
- C) Class G.

206. J42 IRA

(Refer to figure 68.) What would be the approach minimums if you must use the Moisant Field altimeter settings?

- A) 440 1.
- B) 480 and 1/2.
- C) 580 and 1/2.

207. A20 IRA

Under which condition may you act as pilot in command of a helicopter under IFR?

Your certificates and ratings: Private Pilot Certificate with AMEL and Airplane instrument, rotorcraft category rating, and helicopter class rating.

- A) If a certificated helicopter instrument flight instructor is on board.
- B) If you meet the recent helicopter IFR experience requirements.
- C) If you acquire a helicopter instrument rating and meet IFR currency requirements.

208. A20 IRA

What additional flight hours, within the preceding 6 calendar months, are required to maintain IFR currency in a helicopter if you already have 3 hours in an instrument simulator?

- A) 3 hours of actual or simulated instrument time in the same type helicopter.
- B) None, but 6 instrument approaches, holding procedures and tracking courses must be accomplished.
- C) None, but three instrument approaches must also be accomplished.

209. A20 IRA

What additional instrument approaches, if any, must you perform to meet the recent flight experience requirements for IFR operation in a helicopter?

Within the preceding 6 calendar months, you have accomplished:

One approach in a helicopter.

Two approaches in an airplane.

Two approaches in an approved airplane simulator.

- A) None.
- B) One approach in an airplane, helicopter, or approved simulator.
- C) Five approaches in a helicopter or an approved rotorcraft simulator.

210. A20 IRA

Do regulations permit you to act as pilot in command of a helicopter in IMC if you hold a Private Pilot Certificate with ASEL, airplane instrument rating, rotorcraft category, and helicopter class rating?

- A) Yes, if you comply with the recent IFR experience requirements for a helicopter.
- B) No, you must hold either an unrestricted Airline Transport Pilot-Helicopter Certificate or a helicopter instrument rating.
- C) No, however, you may do so if you hold an Airline Transport Pilot-Helicopter Certificate, limited to VFR.

211. B11 IRA

(Refer to figure 59.) Unless otherwise authorized by ATC, what is the minimum equipment for navigation of helicopters on an IFR cross-country flight when in the immediate vicinity of the HUMBLE VORTAC?

- A) VOR receiver, transponder with Mode C capability, and two-way communications.
- B) Transponder with Mode C capability and two-way communications.
- C) VOR (or TACAN) and two-way communications.

212. B11 IRA

Aircraft being operated under IFR are required to have, in addition to the equipment required for VFR and night, at least

- A) distance measuring equipment.
- B) dual VOR receivers.
- C) a slip skid indicator.

213. B10 IRA

During a precision instrument approach (using Category A minimums) a helicopter may not be operated below DH unless

- A) the ceiling is forecast to be at or above landing minimums prescribed for that procedure.
- B) positioned such that a normal approach to the runway of intended landing can be made.
- C) the visibility is forecast to be at or above the landing minimums prescribed for that procedure.

214. B97 IRA

What reduction, if any, to visibility requirements is authorized when using a fixed wing IAP for a helicopter instrument approach?

- A) All visibility requirements may be reduced by one half.
- B) All visibility requirements may be reduced by one fourth.
- C) The visibility requirements may be reduced by one half, but in no case lower than 1,200 RVR or 1/4 mile.

215. J42 IRA

All helicopters are considered to be in which approach category for a helicopter IAP?

- A) A.
- B) A or B, depending upon weight.
- C) B.

216. J42 IRA

Upon what maximum airspeed is the instrument approach criteria for a helicopter based?

- A) 100 knots.
- B) 90 knots.
- C) 80 knots.

217. B97 IRA

(Refer to figure 133.) If the Class D airspace is not effective, what is the LOC/VOR minima for a helicopter if cleared for the S LOC 9 approach at Riverside Municipal?

- A) 1,200 and 1/4 mile.
- B) 991 and RVR 24.
- C) 1,300 and 1/4 mile.

218. B97 IRA

(Refer to figure 128.) What is the helicopter MDA for a straight in VOR RWY 36 approach at Price/Carbon County Airport (VOR only)?

- A) 6,090 feet MSL.
- B) 500 feet MSL.
- C) 6,400 feet MSL.

219. B97 IRA

(Refer to figure 128.) What is the helicopter landing minimum for the VOR RWY 36 approach at Price/Carbon County Airport?

- A) 500 foot ceiling and 1/2 mile visibility.
- B) 1 mile visibility.
- C) one half mile visibility.

220. J42 IRA

(Refer to figure 55.) Under which condition should a missed approach procedure be initiated if the runway environment (Paso Robles Municipal Airport) is not in sight?

- A) After descending to 1,440 feet MSL.
- B) After descent to 1,440 feet or reaching the 1 NM DME, whichever occurs first.
- C) When you reach the established missed approach point and determine the visibility is less than 1/2 mile.

221. B97 IRA

(Refer to figure 129.) As you approach LABER during a straight-in RNAV RWY 36 approach in a helicopter, Little Rock Approach Control advises that the ceiling is 400 feet and the visibility is 1/4 mile. Do regulations permit you to continue the approach and land?

- A) No, you may not reduce the visibility prescribed for Category A airplanes by more than 50 percent.
- B) Yes, only a 1/4 mile visibility or an RVR of 1,200 feet is required for any approach, including RNAV.
- C) No, neither the ceiling nor the visibility meet regulatory requirements.

222. I57 IRA

Area forecasts generally include a forecast period of 18 hours and cover a geographical

- A) terminal area.
- B) area less than 3,000 square miles.
- C) area the size of several states.

223. I57 IRA

Which forecast provides specific information concerning expected sky cover, cloud tops, visibility, weather, and obstructions to vision in a route format?

- A) DFW FA 131240.
- B) MEM TAF 132222.
- C) 249 TWEB 252317.

224. J11 IRA

When are ATIS broadcasts updated?

- A) Every 30 minutes if weather conditions are below basic VFR; otherwise, hourly.
- B) Upon receipt of any official weather, regardless of content change or reported values.
- C) Only when the ceiling and/or visibility changes by a reportable value.

225. I57 IRA

The reporting station originating this Aviation Routine Weather Report has a field elevation of 620 feet. If the reported sky cover is one continuous layer, what is its thickness? (tops of OVC are reported at 6500 feet)

METAR KMDW 121856Z AUTO 32005KT 1 1/2SM +RABR OVC007 17/16 A2980

- A) 5,180 feet.
- B) 5,800 feet.
- C) 5,880 feet.

226. I55 IRA

A ceiling is defined as the height of the

- A) highest layer of clouds or obscuring phenomena aloft that covers over 6/10 of the sky.
- B) lowest layer of clouds that contributed to the overall overcast.
- C) lowest layer of clouds or obscuring phenomena aloft that is reported as broken or overcast.

227. I67 IRA

A pilot reporting turbulence that momentarily causes slight, erratic changes in altitude and/or attitude should report it as

- A) light turbulence.
- B) moderate turbulence.
- C) light chop.

228. I57 IRA

SIGMET's are issued as a warning of weather conditions potentially hazardous

- A) particularly to light aircraft.
- B) to all aircraft.
- C) only to light aircraft operations.

229. I64 IRA

(Refer to figure 18, SFC PROG) A planned low altitude flight from northern Florida to southern Florida at 00Z is likely to encounter

- A) intermittent rain or rain showers, moderate turbulence, and freezing temperatures above 8,000 feet.
- B) showery precipitation, thunderstorms/rain showers covering half or more of the area.
- C) showery precipitation covering less than half the area, no turbulence below 18,000 feet, and freezing temperatures above 12,000 feet.

230. I65 IRA

(Refer to figure 9.) What type of thunderstorm activity is expected over Montana on April 4th at 0800Z?

- A) General.
- B) None.
- C) A slight risk of severe thunderstorms.

231. I58 IRA

The Surface Analysis Chart depicts

- A) actual pressure systems, frontal locations, cloud tops, and precipitation at the time shown on the chart.
- B) frontal locations and expected movement, pressure centers, cloud coverage, and obstructions to vision at the time of chart transmission.
- C) actual frontal positions, pressure patterns, temperature, dew point, wind, weather, and obstructions to vision at the valid time of the chart.

232. J25 IRA

Maximum downdrafts in a microburst encounter may be as strong as

- A) 8,000 feet per minute.
- B) 7,000 feet per minute.
- C) 6,000 feet per minute.

233. J25 IRA

What is the expected duration of an individual microburst?

- A) Two minutes with maximum winds lasting approximately 1 minute.
- B) One microburst may continue for as long as 2 to 4 hours.
- C) Seldom longer than 15 minutes from the time the burst strikes the ground until dissipation.

234. I29 IRA

What is an operational consideration if you fly into rain which freezes on impact?

- A) You have flown into an area of thunderstorms.

B) Temperatures are above freezing at some higher altitude.

C) You have flown through a cold front.

235. I31 IRA

Fog is usually prevalent in industrial areas because of

A) atmospheric stabilization around cities.

B) an abundance of condensation nuclei from combustion products.

C) increased temperatures due to industrial heating.

236. I27 IRA

Frontal waves normally form on

A) slow moving cold fronts or stationary fronts.

B) slow moving warm fronts and strong occluded fronts.

C) rapidly moving cold fronts or warm fronts.

237. I29 IRA

Which conditions result in the formation of frost?

A) The temperature of the collecting surface is at or below freezing and small droplets of moisture are falling.

B) When dew forms and the temperature is below freezing.

C) Temperature of the collecting surface is below the dewpoint of surrounding air and the dewpoint is colder than freezing.

238. I24 IRA

The presence of ice pellets at the surface is evidence that

A) there are thunderstorms in the area.

B) a cold front has passed.

C) there is freezing rain at a higher altitude.

239. I22 IRA

Under what condition is pressure altitude and density altitude the same value?

A) At standard temperature.

B) When the altimeter setting is 29.92 inches Hg.

C) When indicated, and pressure altitudes are the same value on the altimeter.

240. I21 IRA

The primary cause of all changes in the Earth's weather is

A) variation of solar energy received by the Earth's regions.

B) changes in air pressure over the Earth's surface.

C) movement of the air masses.

241. I21 IRA

The most frequent type of ground or surface based temperature inversion is that produced by

A) radiation on a clear, relatively still night.

B) warm air being lifted rapidly aloft in the vicinity of mountainous terrain.

C) the movement of colder air under warm air, or the movement of warm air over cold air.

242. I28 IRA

What is an important characteristic of wind shear?

A) It is an atmospheric condition that is associated exclusively with zones of convergence.

B) The Coriolis phenomenon in both high and low level air masses is the principal generating force.

C) It is an atmospheric condition that may be associated with a low level temperature inversion, a jet stream, or a frontal zone.

243. I28 IRA

What is an important characteristic of wind shear?

A) It is primarily associated with the lateral vortices generated by thunderstorms.

B) It usually exists only in the vicinity of thunderstorms, but may be found near a strong temperature inversion.

C) It may be associated with either a wind shift or a wind speed gradient at any level in the atmosphere.

244. I23 IRA

Hazardous wind shear is commonly encountered near the ground

A) during periods when the wind velocity is stronger than 35 knots.

B) during periods when the wind velocity is stronger than 35 knots and near mountain valleys.

C) during periods of strong temperature inversion and near thunderstorms.

245. H807 IRA

During a skidding turn to the right, what is the relationship between the component of lift, centrifugal force, and load factor?

A) Centrifugal force is less than horizontal lift and the load factor is increased.

B) Centrifugal force is greater than horizontal lift and the load factor is increased.

C) Centrifugal force and horizontal lift are equal and the load factor is decreased.

246. J26 IRA

How should you preflight check the altimeter prior to an IFR flight?

- A) Set the altimeter to 29.92 inches Hg. With current temperature and the altimeter indication, determine the true altitude to compare with the field elevation.
- B) Set the altimeter first with 29.92 inches Hg and then the current altimeter setting. The change in altitude should correspond to the change in setting.
- C) Set the altimeter to the current altimeter setting. The indication should be within 75 feet of the actual elevation for acceptable accuracy.

247. L57 IRA

If both the ram air input and drain hole of the pitot system are blocked, what airspeed indication can be expected?

- A) No variation of indicated airspeed in level flight even if large power changes are made.
- B) Decrease of indicated airspeed during a climb.
- C) Constant indicated airspeed during a descent.

248. L57 IRA

If both the ram air input and the drain hole of the pitot system are blocked, what reaction should you observe on the airspeed indicator when power is applied and a climb is initiated out of severe icing conditions?

- A) The indicated airspeed would show a continuous deceleration while climbing.
- B) The airspeed would drop to, and remain at, zero.
- C) No change until an actual climb rate is established, then indicated airspeed will increase.

249. J03 IRA

The operation of an airport rotating beacon during daylight hours may indicate that

- A) the in flight visibility is less than 3 miles and the ceiling is less than 1,500 feet within Class E airspace.
- B) the ground visibility is less than 3 miles and/or the ceiling is less than 1,000 feet in Class B, C, or D airspace.
- C) an IFR clearance is required to operate within the airport traffic area.

250. J08 IRA

Where are VFR on Top operations prohibited?

- A) In Class A airspace.
- B) During off airways direct flights.
- C) When flying through Class B airspace.

251. J08 IRA

In addition to a VOR receiver and two-way communications capability, which additional equipment is required for IFR operation in Class B airspace?

- A) DME and an operable coded transponder having Mode C capability.

B) Standby communications receiver, DME, and coded transponder.

C) An operable coded transponder having Mode C capability.

252. J08 IRA

When an aircraft is not equipped with a transponder, what requirement must be met before ATC will authorize a flight within class B airspace?

A) A request for the proposed flight must be made to ATC at least 1 hour before the flight.

B) The proposed flight must be conducted when operating under instrument flight rules.

C) The proposed flight must be conducted in visual meteorological conditions (VMC).

253. B09 IRA

(Refer to figure 92.) What is the minimum in-flight visibility and distance from clouds required for an airplane operating less than 1,200 feet AGL under special VFR during daylight hours in area 5?

A) 1 mile; (I) 2,000 feet; (J) 2,000 feet; (L) 500 feet.

B) 3 miles; (I) clear of clouds; (J) clear of clouds; (L) 500 feet.

C) 1 mile; (I) clear of clouds; (J) clear of clouds; (L) clear of clouds.

254. J18 IRA

When cleared to execute a published sidestep maneuver for a specific approach and landing on the parallel runway, at what point is the pilot expected to commence this maneuver?

A) At the published minimum altitude for a circling approach.

B) As soon as possible after the runway or runway environment is in sight.

C) At the localizer MDA minimum and when the runway is in sight.

255. J18 IRA

Assume this clearance is received:

'CLEARED FOR ILS RUNWAY 07 LEFT APPROACH, SIDE STEP TO RUNWAY 07 RIGHT.'

When would the pilot be expected to commence the side step maneuver?

A) As soon as possible after the runway environment is in sight.

B) Any time after becoming aligned with the final approach course of Runway 07 left, and after passing the final approach fix.

C) After reaching the circling minimums for Runway 07 right.

256. J19 IRA

What responsibility does the pilot in command of an IFR flight assume upon entering VFR conditions?

A) Report VFR conditions to ARTCC so that an amended clearance may be issued.

B) Use VFR operating procedures.

C) To see and avoid other traffic.

257. J24 IRA

What altitude and route should be used if you are flying in IMC and have two way radio communications failure?

- A) Continue on the route specified in your clearance, fly at an altitude that is the highest of last assigned altitude, altitude ATC has informed you to expect, or the MEA.
- B) Fly direct to an area that has been forecast to have VFR conditions, fly at an altitude that is at least 1,000 feet above the highest obstacles along the route.
- C) Descend to MEA and, if clear of clouds, proceed to the nearest appropriate airport. If not clear of clouds, maintain the highest of the MEA's along the clearance route.

258. J31 IRA

What visual illusion creates the same effect as a narrower than usual runway?

- A) An upsloping runway.
- B) A wider than usual runway.
- C) A downsloping runway.

259. J31 IRA

Due to visual illusion, when landing on a narrower than usual runway, the aircraft will appear to be

- A) higher than actual, leading to a lower than normal approach.
- B) lower than actual, leading to a higher than normal approach.
- C) higher than actual, leading to a higher than normal approach.

260. J16 IRA

When departing from an airport not served by a control tower, the issuance of a clearance containing a void time indicates that

- A) ATC will assume the pilot has not departed if no transmission is received before the void time.
- B) the pilot must advise ATC as soon as possible, but no later than 30 minutes, of their intentions if not off by the void time.
- C) ATC will protect the airspace only to the void time.

261. J14 IRA

What response is expected when ATC issues an IFR clearance to pilots of airborne aircraft?

- A) Read back the entire clearance as required by regulation.
- B) Read back those parts containing altitude assignments or vectors and any part requiring verification.
- C) Read back should be unsolicited and spontaneous to confirm that the pilot understands all instructions.

262. J14 IRA

What is the significance of an ATC clearance which reads '...CRUISE SIX THOUSAND...'?

- A) The pilot must maintain 6,000 until reaching the IAF serving the destination airport, then execute the published approach procedure.
- B) It authorizes a pilot to conduct flight at any altitude from minimum IFR altitude up to and including 6,000.
- C) The pilot is authorized to conduct flight at any altitude from minimum IFR altitude up to and including 6,000, but each change in altitude must be reported to ATC.

263. J02 IRA

When is a pilot on an IFR flight plan responsible for avoiding other aircraft?

- A) At all times when not in radar contact with ATC.
- B) When weather conditions permit, regardless of whether operating under IFR or VFR.
- C) Only when advised by ATC.

264. J12 IRA

What does declaring 'minimum fuel' to ATC imply?

- A) Traffic priority is needed to the destination airport.
- B) Emergency handling is required to the nearest useable airport.
- C) Merely an advisory that indicates an emergency situation is possible should any undue delay occur.

265. J17 IRA

Which report should be made to ATC without a specific request when not in radar contact?

- A) Entering instrument meteorological conditions.
- B) When leaving final approach fix in bound on final approach.
- C) Correcting an E.T.A. any time a previous E.T.A. is in error in excess of 2 minutes.

266. J11 IRA

When should your transponder be on Mode C while on an IFR flight?

- A) Only when ATC requests Mode C.
- B) At all times if the equipment has been calibrated, unless requested otherwise by ATC.
- C) When passing 12,500 feet MSL.

267. J18 IRA

Aircraft approach categories are based on

- A) certificated approach speed at maximum gross weight.
- B) 1.3 times the stall speed in landing configuration at maximum gross landing weight.
- C) 1.3 times the stall speed at maximum gross weight.

268. J18 IRA

When the approach procedure involves a procedure turn, the maximum speed should not be greater than

- A) 180 knots IAS.
- B) 200 knots IAS.
- C) 250 knots IAS.

269. B10 IRA

When making an instrument approach at the selected alternate airport, what landing minimums apply?

- A) Standard alternate minimums (600-2 or 800 2).
- B) The IFR alternate minimums listed for that airport.
- C) The landing minimums published for the type of procedure selected.

270. B10 IRA

If a pilot elects to proceed to the selected alternate, the landing minimums used at that airport should be the

- A) minimums specified for the approach procedure selected.
- B) alternate minimums shown on the approach chart.
- C) minimums shown for that airport in a separate listing of 'IFR Alternate Minimums.'

271. J18 IRA

If the pilot loses visual reference while circling to land from an instrument approach and ATC radar service is not available, the missed approach action should be to

- A) execute a climbing turn to parallel the published final approach course and climb to the initial approach altitude.
- B) climb to the published circling minimums then proceed direct to the final approach fix.
- C) make a climbing turn toward the landing runway and continue the turn until established on the missed approach course.

272. J18 IRA

If an early missed approach is initiated before reaching the MAP, the following procedure should be used unless otherwise cleared by ATC.

- A) Proceed to the missed approach point at or above the MDA or DH before executing a turning maneuver.
- B) Begin a climbing turn immediately and follow missed approach procedures.
- C) Maintain altitude and continue past MAP for 1 minute or 1 mile whichever occurs first.

273. J18 IRA

When simultaneous approaches are in progress, how does each pilot receive radar advisories?

- A) On tower frequency.
- B) On approach control frequency.
- C) One pilot on tower frequency and the other on approach control frequency.

274. J18 IRA

What are the main differences between a visual approach and a contact approach?

- A) The pilot must request a contact approach; the pilot may be assigned a visual approach and higher weather minimums must exist.
- B) The pilot must request a visual approach and report having the field in sight; ATC may assign a contact approach if VFR conditions exist.
- C) Any time the pilot reports the field in sight, ATC may clear the pilot for a contact approach; for a visual approach, the pilot must advise that the approach can be made under VFR conditions.

275. J18 IRA

What are the requirements for a contact approach to an airport that has an approved IAP, if the pilot is on an instrument flight plan and clear of clouds?

- A) The controller must determine that the pilot can see the airport at the altitude flown and can remain clear of clouds.
- B) The pilot must agree to the approach when given by ATC and the controller must have determined that the visibility was at least 1 mile and be reasonably sure the pilot can remain clear of clouds.
- C) The pilot must request the approach, have at least 1 mile visibility, and be reasonably sure of remaining clear of clouds.

276. J18 IRA

A contact approach is an approach procedure that may be used

- A) in lieu of conducting a SIAP.
- B) if assigned by ATC and will facilitate the approach.
- C) in lieu of a visual approach.

277. H814 IRA

As power is reduced to change airspeed from high to low cruise in level flight, which instruments are primary for pitch, bank, and power, respectively?

- A) Attitude indicator, heading indicator, and manifold pressure gauge or tachometer.
- B) Altimeter, attitude indicator, and airspeed indicator.
- C) Altimeter, heading indicator, and manifold pressure gauge or tachometer.

278. H816 IRA

What is the primary bank instrument once a standard-rate turn is established?

- A) Attitude indicator.
- B) Turn coordinator.
- C) Heading indicator.

279. H815 IRA

What instrument(s) is(are) supporting bank instrument when entering a constant airspeed climb from straight-and-level flight?

- A) Heading indicator.
- B) Attitude indicator and turn coordinator.
- C) Turn coordinator and heading indicator.

280. H816 IRA

What is the primary bank instrument while transitioning from straight-and-level flight to a standard-rate turn to the left?

- A) Attitude indicator.
- B) Heading indicator.
- C) Turn coordinator (miniature aircraft).

281. H813 IRA

What is the first fundamental skill in attitude instrument flying?

- A) Aircraft control.
- B) Instrument cross-check.
- C) Instrument interpretation.

282. H818 IRA

(Refer to figure 150.) What is the flight attitude? One instrument has malfunctioned.

- A) Climbing turn to the right.
- B) Climbing turn to the left.
- C) Descending turn to the right.

283. H818 IRA

(Refer to figure 149.) What is the flight attitude? One system which transmits information to the instruments has malfunctioned.

- A) Level turn to the right.
- B) Level turn to the left.
- C) Straight-and-level flight.

284. H818 IRA

(Refer to figure 146.) Identify the system that has failed and determine a corrective action to return the airplane to straight-and-level flight.

- A) Static/pitot system is blocked; lower the nose and level the wings to level flight attitude by use of attitude indicator.
- B) Vacuum system has failed; reduce power, roll left to level wings, and pitchup to reduce airspeed.
- C) Electrical system has failed; reduce power, roll left to level wings, and raise the nose to reduce airspeed.

285. H816 IRA

What is the primary pitch instrument when establishing a constant altitude standard-rate turn?

- A) Altimeter.
- B) VSI.
- C) Airspeed indicator.

286. H813 IRA

Which instruments, in addition to the attitude indicator, are pitch instruments?

- A) Altimeter and airspeed only.
- B) Altimeter and VSI only.
- C) Altimeter, airspeed indicator, and vertical speed indicator.

287. H815 IRA

What is the primary pitch instrument during a stabilized climbing left turn at cruise climb airspeed?

- A) Attitude indicator.
- B) VSI.
- C) Airspeed indicator.

288. H814 IRA

For maintaining level flight at constant thrust, which instrument would be the least appropriate for determining the need for a pitch change?

- A) Altimeter.
- B) VSI.
- C) Attitude indicator.

289. H814 IRA

As a rule of thumb, altitude corrections of less than 100 feet should be corrected by using a

- A) full bar width on the attitude indicator.
- B) half bar width on the attitude indicator.
- C) two bar width on the attitude indicator.

290. H818 IRA

If an airplane is in an unusual flight attitude and the attitude indicator has exceeded its limits, which instruments should be relied on to determine pitch attitude before starting recovery?

- A) Turn indicator and VSI.
- B) Airspeed and altimeter.
- C) VSI and airspeed to detect approaching VSI or VMO.

291. H818 IRA

(Refer to figure 147.) Which is the correct sequence for recovery from the unusual attitude indicated?

- A) Level wings, add power, lower nose, descend to original attitude, and heading.
- B) Add power, lower nose, level wings, return to original attitude and heading.
- C) Stop turn by raising right wing and add power at the same time, lower the nose, and return to original attitude and heading.

292. H812 IRA

How should you preflight check the altimeter prior to an IFR flight?

- A) Set the altimeter to the current temperature. With current temperature and the altimeter indication, determine the calibrated altitude to compare with the field elevation.
- B) Set the altimeter first with 29.92 inches Hg and then the current altimeter setting. The change in altitude should correspond to the change in setting.
- C) Set the altimeter to the current altimeter setting. The indication should be within 75 feet of the actual elevation for acceptable accuracy.

293. H933 IRA

On what headings will the magnetic compass read most accurately during a level 360° turn, with a bank of approximately 15°?

- A) 135° through 225°.
- B) 90° and 270°.
- C) 180° and 0°.

294. H812 IRA

On the taxi check, the magnetic compass should

- A) swing opposite to the direction of turn when turning from north.
- B) exhibit the same number of degrees of dip as the latitude.
- C) swing freely and indicate known headings.

295. H810 IRA

What does the miniature aircraft of the turn coordinator directly display?

- A) Rate of roll and rate of turn.
- B) Angle of bank and rate of turn.
- C) Angle of bank.

296. H812 IRA

What indication should be observed on a turn coordinator during a left turn while taxiing?

- A) The miniature aircraft will show a turn to the left and the ball remains centered.
- B) The miniature aircraft will show a turn to the left and the ball moves to the right.
- C) Both the miniature aircraft and the ball will remain centered.

297. J16 IRA

Which procedure applies to instrument departure procedures?

- A) Instrument departure clearances will not be issued unless requested by the pilot.
- B) The pilot in command must accept an instrument departure procedure when issued by ATC.
- C) If an instrument departure procedure is accepted, the pilot must possess at least a textual description.

298. J26 IRA

En route at FL 290, the altimeter is set correctly, but not reset to the local altimeter setting of 30.57 inches Hg during descent. If the field elevation is 650 feet and the altimeter is functioning properly, what is the approximate indication upon landing?

- A) 715 feet.
- B) 1,300 feet.
- C) Sea level.

299. J33 IRA

Reception of signals from a radio facility, located off the airway being flown, may be inadequate at the designated MEA to identify the fix. In this case, which altitude is designated for the fix?

- A) MOCA.
- B) MRA.
- C) MCA.

300. J33 IRA

The altitude that provides acceptable navigational signal coverage for the route, and meets obstacle clearance requirements, is the minimum:

- A) obstacle clearance altitude.
- B) reception altitude.
- C) enroute altitude.

301. J18 IRA

What obstacle clearance and navigation signal coverage is a pilot assured with the Minimum Sector Altitudes depicted on the IAP charts?

- A) 1,000 feet and acceptable navigation signal coverage within a 25 NM radius of the navigation facility.
- B) 1,000 feet within a 25 NM radius of the navigation facility, but not acceptable navigation signal coverage.
- C) 500 feet and acceptable navigation signal coverage within a 10 NM radius of the navigation facility.

302. J17 IRA

(Refer to figure 113.) You receive this ATC clearance:

'...CLEARED TO THE ABC VORTAC. HOLD SOUTH ON THE ONE EIGHT ZERO RADIAL...'

What is the recommended procedure to enter the holding pattern?

- A) Teardrop only.
- B) Direct only.
- C) Parallel only.

303. J17 IRA

(Refer to figure 115.) You receive this ATC clearance:

'HOLD WEST OF THE ONE FIVE DME FIX ON THE ZERO NINE ZERO RADIAL OF ABC VORTAC, FIVE MILE LEGS, LEFT TURNS...'

You arrive at the 15 DME fix on a heading of 350°. Which holding pattern correctly complies with these instructions, and what is the recommended entry procedure?

- A) 1; teardrop.
- B) 2; direct.
- C) 1; direct.

304. J17 IRA

(Refer to figure 112.) You arrive at the 15 DME fix on a heading of 350°. Which holding pattern correctly complies with the ATC clearance below, and what is the recommended entry procedure?

'...HOLD WEST OF THE ONE FIVE DME FIX ON THE ZERO NINE ZERO RADIAL OF THE ABC VORTAC, FIVE MILE LEGS, LEFT TURNS...'

- A) 1; teardrop entry.
- B) 1; direct entry.
- C) 2; direct entry.

305. H948 IRA

(Refer to the FD excerpt below, and use the wind entry closest to the flight planned altitude.)
Determine the time to be entered in block 10 of the flight plan.

Route of flight	Figures 27, 28, 29, 30, and 31		
Flight log & MAG VAR	Figure 28		
GNATS ONE DEPARTURE and Excerpt from AFD	Figure 30		
FT	3000	6000	9000
OTH	0507	2006+03	2215-05

- A) 1 hour 10 minutes.
- B) 1 hour 15 minutes.
- C) 1 hour 20 minutes.

306. J06 IRA

What is the purpose of FDC NOTAMs?

- A) To provide the latest information on the status of navigation facilities to all FSS facilities for scheduled broadcasts.
- B) To issue notices for all airports and navigation facilities in the shortest possible time.
- C) To advise of changes in flight data which affect instrument approach procedure (IAP), aeronautical charts, and flight restrictions prior to normal publication.

307. H830 IRA

(Refer to figure 105.) If the magnetic heading shown for aircraft 4 is maintained, which ADF illustration would indicate the aircraft is on the 135° magnetic bearing TO the station?

- A) 1.
- B) 4.
- C) 8.

308. H830 IRA

(Refer to instruments in figure 102.) On the basis of this information, the magnetic bearing TO the station would be

- A) 175°.
- B) 255°.
- C) 355°.

309. H830 IRA

(Refer to instruments in figure 102.) On the basis of this information, the magnetic bearing FROM the station would be

- A) 175°.

- B) 255°.
- C) 355°.

310. H830 IRA

(Refer to instruments in figure 103.) On the basis of this information, the magnetic bearing TO the station would be

- A) 060°.
- B) 240°.
- C) 270°.

311. H832 IRA

As a rule of thumb, to minimize DME slant range error, how far from the facility should you be to consider the reading as accurate?

- A) Two miles or more for each 1,000 feet of altitude above the facility.
- B) One or more miles for each 1,000 feet of altitude above the facility.
- C) No specific distance is specified since the reception is line of sight.

312. J01 IRA

For operations off established airways at 17,000 feet MSL in the contiguous U.S., (H) Class VORTAC facilities used to define a direct route of flight should be no farther apart than

- A) 75 NM.
- B) 100 NM.
- C) 200 NM.

313. H831 IRA

A VOR receiver with normal five-dot course sensitivity shows a three-dot deflection at 30 NM from the station. The aircraft would be displaced approximately how far from the course centerline?

- A) 2 NM.
- B) 3 NM.
- C) 5 NM.

314. H831 IRA

What angular deviation from a VOR course centerline is represented by a full scale deflection of the CDI?

- A) 4°.
- B) 5°.
- C) 10°.

315. H831 IRA

When using VOR for navigation, which of the following should be considered as station passage?

- A) The first movement of the CDI as the airplane enters the zone of confusion.
- B) The moment the TO FROM indicator becomes blank.
- C) The first positive, complete reversal of the TO FROM indicator.

316. J01 IRA

How should the pilot make a VOR receiver check when the aircraft is located on the designated checkpoint on the airport surface?

- A) With the aircraft headed directly toward the VOR and the OBS set to 000°, the CDI should center within plus or minus 4° of that radial with a TO indication.
- B) Set the OBS on the designated radial. The CDI must center within plus or minus 4° of that radial with a FROM indication.
- C) Set the OBS on 180° plus or minus 4°; the CDI should center with a FROM indication.

317. J01 IRA

When using VOT to make a VOR receiver check, the CDI should be centered and the OBS should indicate that the aircraft is on the

- A) 090 radial.
- B) 180 radial.
- C) 360 radial.

318. J01 IRA

Which is the maximum tolerance for the VOR indication when the CDI is centered and the aircraft is directly over the airborne checkpoint?

- A) Plus or minus 6° of the designated radial.
- B) Plus or minus 4° of the designated radial.
- C) Plus 6° or minus 4° of the designated radial.

319. J35 IRA

(Refer to figure 91.) What is the function of the Great Falls RCO (Yellowstone vicinity)?

- A) Long range communications outlet for Great Falls Center.
- B) Remote communications outlet for Great Falls FSS.
- C) Satellite remote controlled by Salt Lake Center with limited service.

320. J35 IRA

(Refer to figure 91.) What is the minimum crossing altitude at SABAT intersection when eastbound from DBS VORTAC on V298?

- A) 8,300 feet.
- B) 11,100 feet.

C) 13,000 feet.

321. J33 IRA

What does the Runway Visual Range (RVR) value, depicted on certain straight in IAP Charts, represent?

- A) The slant range distance the pilot can see down the runway while crossing the threshold on glide slope.
- B) The horizontal distance a pilot should see when looking down the runway from a moving aircraft.
- C) The slant visual range a pilot should see down the final approach and during landing.

322. J42 IRA

What does the absence of the procedure turn barb on the plan view on an approach chart indicate?

- A) A procedure turn is not authorized.
- B) Teardrop-type procedure turn is authorized.
- C) Racetrack-type procedure turn is authorized.

323. J41 IRA

(Refer to figures 41 and 41A.) On which heading should you plan to depart CREEK intersection?

- A) 010°.
- B) 040°.
- C) 350°.

324. J42 IRA

(Refer to figure 129.) What minimum airborne equipment is required to be operative for RNAV RWY 36 approach at Adams Field?

- A) An approved RNAV receiver that provides both horizontal and vertical guidance.
- B) A transponder and an approved RNAV receiver that provides both horizontal and vertical guidance.
- C) Any approved RNAV receiver.

325. J01 IRA

What are the main differences between the SDF and the localizer of an ILS?

- A) The useable off course indications are limited to 35° for the localizer and up to 90° for the SDF.
- B) The SDF course may not be aligned with the runway and the course may be wider.
- C) The course width for the localizer will always be 5° while the SDF course will be between 6° and 12°.

326. J34 IRA

(Refer to figures 59 and 60.) What are the operating hours (local standard time) of the Houston EFAS?

- A) 0600 to 2200.
- B) 0700 to 2300.
- C) 1800 to 1000.

327. J34 IRA

(Refer to figure 46.) What are the hours of operation (local time) of the ATIS for the Yakima Air Terminal when daylight savings time is in effect?

- A) 0500 to 2100 local.
- B) 0600 to 2200 local.
- C) 0700 to 2300 local.

328. A20 IRA

What minimum conditions are necessary for the instrument approaches required for IFR currency?

- A) The approaches may be made in an aircraft, approved instrument ground trainer, or any combination of these.
- B) At least three approaches must be made in the same category of aircraft to be flown.
- C) At least three approaches must be made in the same category and class of aircraft to be flown.

329. A20 IRA

To meet the minimum instrument experience requirements, within the last 6 calendar months you need

- A) six instrument approaches, holding procedures, and intercepting and tracking courses in the appropriate category of aircraft.
- B) six hours in the same category aircraft.
- C) six hours in the same category aircraft, and at least 3 of the 6 hours in actual IFR conditions.

330. A20 IRA

Which flight time may be logged as instrument time when on an instrument flight plan?

- A) All of the time the aircraft was not controlled by ground references.
- B) Only the time you controlled the aircraft solely by reference to flight instruments.
- C) Only the time you were flying in IFR weather conditions.

331. B13 IRA

Your aircraft had the static pressure system and altimeter tested and inspected on January 5, of this year, and was found to comply with FAA standards. These systems must be reinspected and approved for use in controlled airspace under IFR by

- A) January 5, next year.

- B) January 5, 2 years hence.
- C) January 31, 2 years hence.

332. B07 IRA

Who is responsible for determining that the altimeter system has been checked and found to meet 14 CFR part 91 requirements for a particular instrument flight?

- A) Owner.
- B) Operator.
- C) Pilot-in-command.

333. J08 IRA

No person may operate an aircraft in controlled airspace under IFR unless he/she files a flight plan

- A) and receives a clearance by telephone prior to takeoff.
- B) prior to takeoff and requests the clearance upon arrival on an airway.
- C) and receives a clearance prior to entering controlled airspace.

334. B08 IRA

In the case of operations over an area designated as a mountainous area where no other minimum altitude is prescribed, no person may operate an aircraft under IFR below an altitude of

- A) 500 feet above the highest obstacle.
- B) 1,000 feet above the highest obstacle.
- C) 2,000 feet above the highest obstacle.

335. B08 IRA

Before beginning any flight under IFR, the pilot in command must become familiar with all available information concerning that flight including:

- A) all instrument approaches at the destination airport.
- B) an alternate airport and adequate takeoff and landing performance at the destination airport.
- C) the runway lengths at airports of intended use, and the aircraft's takeoff and landing data.

336. B11 IRA

In the 48 contiguous states, excluding the airspace at or below 2,500 feet AGL, an operable coded transponder equipped with Mode C capability is required in all controlled airspace at and above

- A) 12,500 feet MSL.
- B) 10,000 feet MSL.
- C) Flight level (FL) 180.

337. I57 IRA

Which primary source should be used to obtain forecast weather information at your destination for the planned ETA?

- A) Area Forecast.
- B) Radar Summary and Weather Depiction Charts.
- C) Terminal Aerodrome Forecast (TAF).

338. I57 IRA

The body of a Terminal Aerodrome Forecast (TAF) covers a geographical proximity within a

- A) 5 statute mile radius from the center of an airport runway complex.
- B) 5 to 10 statute mile radius from the center of an airport runway complex.
- C) 5 nautical mile radius of the center of an airport.

339. I63 IRA

Which values are used for winds aloft forecasts?

- A) Magnetic direction and knots.
- B) Magnetic direction and MPH.
- C) True direction and knots.

340. I57 IRA

What is the maximum forecast period for AIRMET's?

- A) Two hours.
- B) Four hours.
- C) Six hours.

341. J11 IRA

Absence of the sky condition and visibility on an ATIS broadcast specifically implies that

- A) the ceiling is more than 5,000 feet and visibility is 5 miles or more.
- B) the sky condition is clear and visibility is unrestricted.
- C) the ceiling is at least 3,000 feet and visibility is 5 miles or more.

342. I54 IRA

The Hazardous Inflight Weather Advisory Service (HIWAS) is a continuous broadcast over selected VORs of

- A) SIGMETs, CONVECTIVE SIGMETs, AIRMETs, Severe Weather Forecasts Alerts (AWW), and Center Weather Advisories.
- B) SIGMETs, CONVECTIVE SIGMETs, AIRMETs, Wind Shear Advisories, and Severe Weather Forecast Alerts (AWW).
- C) Wind Shear Advisories, Radar Weather Reports, SIGMETs, CONVECTIVE SIGMETs, AIRMETs, and Center Weather Advisories (CWA).

343. I56 IRA

A pilot planning to depart at 1100Z on an IFR flight is particularly concerned about the hazard of icing. What sources reflect the most accurate information on icing conditions (current and forecast) at the time of departure?

- A) Low-Level Significant Weather Prognostic Chart, and the Area Forecast.
- B) The Area Forecast, and the Freezing Level Chart.
- C) Pilot weather reports (PIREP's), AIRMET's, and SIGMET's.

344. I56 IRA

Interpret this PIREP.

MRB UA/OV MRB/TM1430/FL060/TPC182/SK BKN BL/WX RA/TB MDT.

- A) Ceiling 6,000 feet intermittently below moderate thundershowers; turbulence increasing westward.
- B) FL 60,000, intermittently below clouds; moderate rain, turbulence increasing with the wind.
- C) At 6,000 feet; between layers; moderate turbulence; moderate rain.

345. I63 IRA

(Refer to figure 12.) What is the approximate wind direction and velocity at 34,000 feet (see arrow C)?

- A) 290°/50 knots.
- B) 330°/50 knots.
- C) 090°/48 knots.

346. I23 IRA

Which force, in the Northern Hemisphere, acts at a right angle to the wind and deflects it to the right until parallel to the isobars?

- A) Centrifugal.
- B) Pressure gradient.
- C) Coriolis.

347. I31 IRA

In what localities is advection fog most likely to occur?

- A) Coastal areas.
- B) Mountain slopes.
- C) Level inland areas.

348. I27 IRA

Which weather phenomenon is always associated with the passage of a frontal system?

- A) A wind change.
- B) An abrupt decrease in pressure.
- C) Clouds, either ahead or behind the front.

349. I32 IRA

A jet stream is defined as wind of

- A) 30 knots or greater.
- B) 40 knots or greater.
- C) 50 knots or greater.

350. I24 IRA

What temperature condition is indicated if wet snow is encountered at your flight altitude?

- A) The temperature is above freezing at your altitude.
- B) The temperature is below freezing at your altitude.
- C) You are flying from a warm air mass into a cold air mass.

351. I27 IRA

Steady precipitation, in contrast to showers, preceding a front is an indication of

- A) stratiform clouds with moderate turbulence.
- B) cummuliform clouds with little or no turbulence.
- C) stratiform clouds with little or no turbulence.

352. I25 IRA

Stability can be determined from which measurement of the atmosphere?

- A) Low level winds.
- B) Ambient lapse rate.
- C) Atmospheric pressure.

353. I21 IRA

How much colder than standard temperature is the forecast temperature at 9,000 feet, as indicated in the following excerpt from the Winds and Temperature Aloft Forecast?

FT 6000	9000
0737-04	1043-10

- A) 3 °C.
- B) 10 °C.
- C) 7 °C.

354. I21 IRA

If the air temperature is +8 °C at an elevation of 1,350 feet and a standard (average) temperature lapse rate exists, what will be the approximate freezing level?

- A) 3,350 feet MSL.
- B) 5,350 feet MSL.
- C) 9,350 feet MSL.

355. I21 IRA

A common type of ground or surface based temperature inversion is that which is produced by

- A) warm air being lifted rapidly aloft in the vicinity of mountainous terrain.
- B) the movement of colder air over warm air, or the movement of warm air under cold air.
- C) ground radiation on clear, cool nights when the wind is light.

356. I30 IRA

If you fly into severe turbulence, which flight condition should you attempt to maintain?

- A) Constant airspeed (VA).
- B) Level flight attitude.
- C) Constant altitude and constant airspeed.

357. I20 IRA

The average height of the troposphere in the middle latitudes is

- A) 20,000 feet.
- B) 25,000 feet.
- C) 37,000 feet.

358. I23 IRA

What causes surface winds to flow across the isobars at an angle rather than parallel to the isobars?

- A) Coriolis force.
- B) Surface friction.
- C) The greater density of the air at the surface.

359. K04 IRA

What effect will a change in wind direction have upon maintaining a 3° glide slope at a constant true airspeed?

- A) When ground speed decreases, rate of descent must increase.
- B) When ground speed increases, rate of descent must increase.
- C) Rate of descent must be constant to remain on the glide slope.

360. K04 IRA

While flying a 3° glide slope, a constant tailwind shears to a calm wind. Which conditions should the pilot expect?

- A) Airspeed and pitch attitude decrease and there is a tendency to go below glide slope.
- B) Airspeed and pitch attitude increase and there is a tendency to go below glide slope.
- C) Airspeed and pitch attitude increase and there is a tendency to go above glide slope.

361. K04 IRA

Thrust is managed to maintain IAS, and glide slope is being flown. What characteristics should be observed when a headwind shears to be a constant tailwind?

- A) PITCH ATTITUDE: Increases; REQUIRED THRUST: Increased, then reduced; VERTICAL SPEED: Increases; IAS: Increases, then decreases to approach speed.
- B) PITCH ATTITUDE: Decreases; REQUIRED THRUST: Increased, then reduced; VERTICAL SPEED: Increases; IAS: Decreases, then increases to approach speed.
- C) PITCH ATTITUDE: Increases; REQUIRED THRUST: Reduced, then increased; VERTICAL SPEED: Decreases; IAS: Decreases, then increases to approach speed.

362. J31 IRA

A pilot is more subject to spatial disorientation if

- A) kinesthetic senses are ignored.
- B) eyes are moved often in the process of cross checking the flight instruments.
- C) body signals are used to interpret flight attitude.

363. J31 IRA

Which procedure is recommended to prevent or overcome spatial disorientation?

- A) Reduce head and eye movements to the extent possible.
- B) Rely on the kinesthetic sense.
- C) Rely on the indications of the flight instruments.

364. J01 IRA

When installed with the ILS and specified in the approach procedures, DME may be used

- A) in lieu of the OM.
- B) in lieu of visibility requirements.
- C) to determine distance from TDZ.

365. J33 IRA

Reception of signals from an off airway radio facility may be inadequate to identify the fix at the designated MEA. In this case, which altitude is designated for the fix?

- A) MRA.
- B) MCA.

C) MOCA.

366. H832 IRA

(Refer to figure 55.) As a guide in making range corrections, how many degrees of relative bearing change should be used for each one half mile deviation from the desired arc?

- A) 2° to 3°.
- B) 5° maximum.
- C) 10° to 20°.

367. J05 IRA

(Refer to figure 138.) What night operations, if any, are authorized between the approach end of the runway and the threshold lights?

- A) No aircraft operations are permitted short of the threshold lights.
- B) Only taxi operations are permitted in the area short of the threshold lights.
- C) Taxi and takeoff operations are permitted, providing the takeoff operations are toward the visible green threshold lights.

368. J05 IRA

Which runway marking indicates a displaced threshold on an instrument runway?

- A) Arrows leading to the threshold mark.
- B) Centerline dashes starting at the threshold.
- C) Red chevron marks in the nonlanding portion of the runway.

369. J08 IRA

The aircraft's transponder fails during flight within Class D airspace.

- A) The pilot should immediately request clearance to depart the Class D airspace.
- B) No deviation is required because a transponder is not required in Class D airspace.
- C) Pilot must immediately request priority handling to proceed to destination.

370. J18 IRA

When may a pilot make a straight in landing, if using an IAP having only circling minimums?

- A) A straight in landing may not be made, but the pilot may continue to the runway at MDA and then circle to land on the runway.
- B) The pilot may land straight in if the runway is the active runway and he has been cleared to land.
- C) A straight in landing may be made if the pilot has the runway in sight in sufficient time to make a normal approach for landing, and has been cleared to land.

371. J15 IRA

When may a pilot cancel the IFR flight plan prior to completing the flight?

- A) Any time.
- B) Only if an emergency occurs.
- C) Only in VFR conditions when not in Class A airspace.

372. J15 IRA

For which speed variation should you notify ATC?

- A) When the ground speed changes more than 5 knots.
- B) When the average true airspeed changes 5 percent or 10 knots, whichever is greater.
- C) Any time the ground speed changes 10 MPH.

373. J17 IRA

Where a holding pattern is specified in lieu of a procedure turn, the holding maneuver must be executed within

- A) the 1-minute time limitation or DME distance as specified in the profile view.
- B) a radius of 5 miles from the holding fix.
- C) 10 knots of the specified holding speed.

374. J17 IRA

(Refer to figure 129.) What type of entry is recommended to the missed approach holding pattern if the inbound heading is 050°?

- A) Direct.
- B) Parallel.
- C) Teardrop.

375. J01 IRA

Which substitution is appropriate during an ILS approach?

- A) A VOR radial crossing the outer marker site may be substituted for the outer marker.
- B) LOC minimums should be substituted for ILS minimums whenever the glide slope becomes inoperative.
- C) DME, when located at the localizer antenna site, should be substituted for either the outer or middle marker.

376. B10 IRA

If the RVR equipment is inoperative for an IAP that requires a visibility of 2,400 RVR, how should the pilot expect the visibility requirement to be reported in lieu of the published RVR?

- A) As a slant range visibility of 2,400 feet.
- B) As an RVR of 2,400 feet.
- C) As a ground visibility of 1/2 SM.

377. J17 IRA

(Refer to figure 133.) What action should the pilot take if the marker beacon receiver becomes inoperative during the S ILS 9 approach at Riverside Municipal?

- A) Substitute SWAN LAKE INT. for the OM and surveillance radar for the MM.
- B) Raise the DH 100 feet (50 feet for the OM and 50 feet for the MM).
- C) Substitute SWAN LAKE INT. for the OM and use published minimums.

378. J18 IRA

Which of the following statements is true regarding Parallel ILS approaches?

- A) Parallel ILS approach runway centerlines are separated by at least 4,300 feet and standard IFR separation is provided on the adjacent runway.
- B) Parallel ILS approaches provide aircraft a minimum of 1 1/2 miles radar separation between successive aircraft on the adjacent localizer course.
- C) Landing minimums to the adjacent runway will be higher than the minimums to the primary runway, but will normally be lower than the published circling minimums.

379. J18 IRA

Which information, in addition to headings, does the radar controller provide without request during an ASR approach?

- A) The recommended altitude for each mile from the runway.
- B) When reaching the MDA.
- C) When to commence descent to MDA, the aircraft's position each mile on final from the runway, and arrival at the MAP.

380. J18 IRA

When making a 'timed approach' from a holding fix at the outer marker, the pilot should adjust the

- A) holding pattern to start the procedure turn at the assigned time.
- B) airspeed at the final approach fix in order to arrive at the missed approach point at the assigned time.
- C) holding pattern to leave the final approach fix inbound at the assigned time.

381. J18 IRA

What conditions are necessary before ATC can authorize a visual approach?

- A) You must have the preceding aircraft in sight, and be able to remain in VFR weather conditions.
- B) You must have the airport in sight or the preceding aircraft in sight, and be able to proceed to, and land in IFR conditions.
- C) You must have the airport in sight or a preceding aircraft to be followed, and be able to proceed to the airport in VFR conditions.

382. J18 IRA

When may you obtain a contact approach?

- A) ATC may assign a contact approach if VFR conditions exist or you report the runway in sight and are clear of clouds.
- B) ATC may assign a contact approach if you are below the clouds and the visibility is at least 1 mile.
- C) ATC will assign a contact approach only upon request if the reported visibility is at least 1 mile.

383. H816 IRA

During standard-rate turns, which instrument is considered 'primary' for bank?

- A) Attitude indicator.
- B) Heading indicator.
- C) Turn and slip indicator or turn coordinator.

384. H808 IRA

Altimeter setting is the value to which the scale of the pressure altimeter is set so the altimeter indicates

- A) pressure altitude at sea level.
- B) true altitude at field elevation.
- C) pressure altitude at field elevation.

385. H812 IRA

What pretakeoff check should be made of the attitude indicator in preparation for an IFR flight?

- A) The horizon bar does not vibrate during warmup.
- B) The miniature airplane should erect and become stable within 5 minutes.
- C) The horizon bar should erect and become stable within 5 minutes.

386. H809 IRA

(Refer to figure 143.) The heading on a remote indicating compass is 120° and the magnetic compass indicates 110°. What action is required to correctly align the heading indicator with the magnetic compass?

- A) Select the free gyro mode and depress the counter clockwise heading drive button.
- B) Select the slaved gyro mode and depress the clockwise heading drive button.
- C) Select the free gyro mode and depress the clockwise heading drive button.

387. J40 IRA

(Refer to figure 77.) At which minimum altitude should you cross the STAKK intersection?

- A) 6,500 feet MSL.
- B) 1,400 feet MSL.
- C) 10,200 feet MSL.

388. H931 IRA

(Refer to figures 27 and 28.) What CAS must be used to maintain the filed TAS at the flight planned altitude if the outside air temperature is -5 °C?

- A) 134 KCAS.
- B) 139 KCAS.
- C) 142 KCAS.

389. J15 IRA

(Refer to figure 27.) What aircraft equipment code should be entered in block 3 of the flight plan?

- A) T.
- B) U.
- C) A.

390. J15 IRA

From what source can you obtain the latest FDC NOTAM's?

- A) Notices to Airmen publications.
- B) FAA AFSS/FSS.
- C) Airport/Facility Directory.

391. J18 IRA

You are being vectored to the ILS approach course, but have not been cleared for the approach. It becomes evident that you will pass through the localizer course. What action should be taken?

- A) Turn outbound and make a procedure turn.
- B) Continue on the assigned heading and query ATC.
- C) Start a turn to the inbound heading and inquire if you are cleared for the approach.

392. J18 IRA

While being vectored, if crossing the ILS final approach course becomes imminent and an approach clearance has not been issued, what action should be taken by the pilot?

- A) Turn outbound on the final approach course, execute a procedure turn, and inform ATC.
- B) Turn inbound and execute the missed approach procedure at the outer marker if approach clearance has not been received.
- C) Maintain the last assigned heading and query ATC.

393. J18 IRA

Which is true regarding STAR's?

- A) STAR's are used to separate IFR and VFR traffic.
- B) STAR's are established to simplify clearance delivery procedures.

C) STAR's are used at certain airports to decrease traffic congestion.

394. H832 IRA

(Refer to figure 30.) During the arc portion of the instrument departure procedure (GNATS1. MOURN), a left crosswind is encountered. Where should the bearing pointer of an RMI be referenced relative to the wing-tip to compensate for wind drift and maintain the 15 DME arc?

- A) Behind the right wing-tip reference point.
- B) On the right wing-tip reference point.
- C) Behind the left wing-tip reference point.

395. J01 IRA

(Refer to figure 73.) Which sequence of marker beacon indicator lights, and their respective codes, will you receive on the ILS RWY 6 approach procedure to the MAP?

- A) Blue - alternate dots and dashes; amber - dashes.
- B) Amber - alternate dots and dashes; blue - dashes.
- C) Blue - dashes; amber - alternate dots and dashes.

396. J35 IRA

(Refer to figure 34.) At which altitude and location on V573 would you expect the navigational signal of the HOT VOR/DME to be unreliable?

- A) 3,000 feet at APINE intersection.
- B) 2,600 feet at MARKI intersection.
- C) 4,000 feet at ELMMO intersection.

397. J01 IRA

(Refer to figure 76.) Which indication would be an acceptable accuracy check of both VOR receivers when the aircraft is located on the VOR receiver checkpoint at the Helena Regional Airport?

- A) A.
- B) B.
- C) C.

398. J35 IRA

(Refer to figure 87.) Which VHF frequencies, other than 121.5, can be used to receive De Ridder FSS in the Lake Charles area?

- A) 122.1, 126.4.
- B) 123.6, 122.65.
- C) 122.2, 122.3.

399. J42 IRA

(Refer to figure 120.) The symbol on the plan view of the ILS RWY 35R procedure at DEN represents a minimum safe sector altitude within 25 NM of

- A) Denver VORTAC.
- B) Gandhi outer marker.
- C) Denver/Stapleton International Airport.

400. H833 IRA

(Refer to figures 36A.) Under which condition should the missed approach procedure for the VOR/DME RNAV RWY 33 approach be initiated?

- A) Immediately upon reaching the 5.0 DME from the FAF.
- B) When passage of the MAP way point is shown on the ambiguity indicator.
- C) After the MDA is reached and 1.8 DME fix from the MAP way point.

401. J42 IRA

(Refer to figures 36A.) What is the minimum number of way points required for the complete RNAV RWY 33 approach procedure including the IAF's and missed approach procedure?

- A) One way point.
- B) Two way points.
- C) Three way points.

402. J41 IRA

(Refer to figures 35 and 35A.) At which point does the BUJ.BUJ3 arrival begin?

- A) At the TXK VORTAC.
- B) At BOGAR intersection.
- C) At the BUJ VORTAC.

403. J34 IRA

Which sources of aeronautical information, when used collectively, provide the latest status of airport conditions (e.g., runway closures, runway lighting, snow conditions)?

- A) Aeronautical Information Manual, aeronautical charts, and Distant (D) Notice to Airmen (NOTAM's).
- B) Airport Facility Directory, FDC NOTAM's, and Local (L) NOTAM's.
- C) Airport Facility Directory, Distant (D) NOTAM's, and Local (L) NOTAM's.

404. J15 IRA

The most current en route and destination flight information for planning an instrument flight should be obtained from

- A) the ATIS broadcast.

- B) the FSS.
- C) Notices to Airmen (Class II).

405. K26 IRA

How can a pilot determine if a Global Positioning System (GPS) installed in an aircraft is approved for IFR enroute and IFR approaches?

- A) Flight manual supplement.
- B) GPS operator's manual.
- C) Aircraft owner's handbook.

406. J34 IRA

(Refer to figure 29.) What are the hours of operation (local standard time) of the control tower at Eugene/Mahlon Sweet Field?

- A) 0800 2300.
- B) 0600 0000.
- C) 0700 0100.

407. J34 IRA

(Refer to figure 72.) How many precision approach procedures are published for Bradley International Airport?

- A) One.
- B) Three.
- C) Four.

408. J01 IRA

In which publication can the VOR receiver ground checkpoint(s) for a particular airport be found?

- A) Airman's Information Manual.
- B) En Route Low Altitude Chart.
- C) Airport/Facility Directory.

409. A20 IRA

An instrument rated pilot, who has not logged any instrument time in 1 year or more, cannot serve as pilot in command under IFR, unless the pilot

- A) completes the required 6 hours and six approaches, followed by an instrument proficiency check given by an FAA-designated examiner.
- B) passes an instrument proficiency check in the category of aircraft involved, given by an approved FAA examiner, instrument instructor, or FAA inspector.
- C) passes an instrument proficiency check in the category of aircraft involved, followed by 6 hours and six instrument approaches, 3 of those hours in the category of aircraft involved.

410. B10 IRA

When a pilot elects to proceed to the selected alternate airport, which minimums apply for landing at the alternate?

- A) 600 1 if the airport has an ILS.
- B) Ceiling 200 feet above the published minimum; visibility 2 miles.
- C) The landing minimums for the approach to be used.

411. B10 IRA

When is an IFR flight plan required?

- A) When less than VFR conditions exist in either Class E or Class G airspace and in Class A airspace.
- B) In all Class E airspace when conditions are below VFR, in Class A airspace, and in defense zone airspace.
- C) In Class E airspace when IMC exists or in Class A airspace.

412. B10 IRA

During your preflight planning for an IFR flight, you determine that the first airport of intended landing has no instrument approach prescribed in 14 CFR part 97. The weather forecast for one hour before through one hour after your estimated time of arrival is 3000' scattered with 5 miles visibility.

To meet the fuel requirements for this flight, you must be able to fly to the first airport of intended landing,

- A) and then fly for 45 minutes at normal cruising speed.
- B) then to the alternate airport, and then for 45 minutes at normal cruising speed.
- C) then to the alternate airport, and then for 30 minutes at normal cruising speed.

413. A20 IRA

When are you required to have an instrument rating for flight in VMC?

- A) Flight through an MOA.
- B) Flight into an ADIZ.
- C) Flight into class A airspace.

414. B11 IRA

If the aircraft's transponder fails during flight within Class B airspace,

- A) the pilot should immediately request clearance to depart the Class B airspace.
- B) ATC may authorize deviation from the transponder requirement to allow aircraft to continue to the airport of ultimate destination.
- C) aircraft must immediately descend below 1,200 feet AGL and proceed to destination.

415. B11 IRA

What minimum navigation equipment is required for IFR flight?

- A) VOR/LOC receiver, transponder, and DME.
- B) VOR receiver and, if in ARTS III environment, a coded transponder equipped for altitude reporting.
- C) Navigation equipment appropriate to the ground facilities to be used.

416. B11 IRA

Where is DME required under IFR?

- A) At or above 24,000 feet MSL if VOR navigational equipment is required.
- B) In positive control airspace.
- C) Above 18,000 feet MSL.

417. G10 IRA

Which publication covers the procedures required for aircraft accident and incident reporting responsibilities for pilots?

- A) FAR Part 61.
- B) FAR Part 91.
- C) NTSB Part 830.

418. I25 IRA

What type of clouds will be formed if very stable moist air is forced up slope?

- A) First stratified clouds and then vertical clouds.
- B) Vertical clouds with increasing height.
- C) Stratified clouds with little vertical development.

419. I22 IRA

Under which condition will pressure altitude be equal to true altitude?

- A) When the atmospheric pressure is 29.92 inches Hg.
- B) When standard atmospheric conditions exist.
- C) When indicated altitude is equal to the pressure altitude.

420. I31 IRA

Which is true regarding the use of airborne weather-avoidance radar for the recognition of certain weather conditions?

- A) The radarscope provides no assurance of avoiding instrument weather conditions.
- B) The avoidance of hail is assured when flying between and just clear of the most intense echoes.
- C) The clear area between intense echoes indicates that visual sighting of storms can be maintained when flying between the echoes.

421. J03 IRA

(Refer to figure 134.) Unless a higher angle is necessary for obstacle clearance, what is the normal glidepath angle for a 2 bar VASI?

- A) 2.75°.
- B) 3.00°.
- C) 3.25°.

422. J24 IRA

Which procedure should you follow if, during an IFR flight in VFR conditions, you have two way radio communications failure?

- A) Continue the flight under VFR and land as soon as practicable.
- B) Continue the flight at assigned altitude and route, start approach at your ETA, or, if late, start approach upon arrival.
- C) Land at the nearest airport that has VFR conditions.

423. J19 IRA

What is the pilot in command's responsibility when flying a propeller aircraft within 20 miles of the airport of intended landing and ATC requests the pilot to reduce speed to 160? (Pilot complies with speed adjustment.)

- A) Reduce TAS to 160 knots and maintain until advised by ATC.
- B) Reduce IAS to 160 MPH and maintain until advised by ATC.
- C) Reduce IAS to 160 knots and maintain that speed within 10 knots.

424. J42 IRA

Which pilot action is appropriate if more than one component of an ILS is unusable?

- A) Use the highest minimum required by any single component that is unusable.
- B) Request another approach appropriate to the equipment that is useable.
- C) Raise the minimums a total of that required by each component that is unusable.

425. H818 IRA

While recovering from an unusual flight attitude without the aid of the attitude indicator, approximate level pitch attitude is reached when the

- A) airspeed and altimeter stop their movement and the VSI reverses its trend.
- B) airspeed arrives at cruising speed, the altimeter reverses its trend, and the vertical speed stops its movement.
- C) altimeter and vertical speed reverse their trend and the airspeed stops its movement.

426. H758 IRA

On what headings will the magnetic compass read most accurately during a level 360° turn, with a bank of approximately 15°?

- A) 135° through 225°.
- B) 90° and 270°.
- C) 180° and 0°.

427. J26 IRA

What is the procedure for setting the altimeter when assigned an IFR altitude of 18,000 feet or higher on a direct flight off airways?

- A) Set the altimeter to 29.92 inches Hg before takeoff.
- B) Set the altimeter to the current altimeter setting until reaching the assigned altitude, then set to 29.92 inches Hg.
- C) Set the altimeter to the current reported setting for climb-out and 29.92 inches Hg upon reaching 18,000 feet.

428. J17 IRA

(Refer to figure 117.) You receive this ATC clearance:

'...CLEARED TO THE ABC NDB. HOLD SOUTHWEST ON THE TWO THREE ZERO DEGREE BEARING FROM THE NDB...'

At station passage you note the indications in figure 117. What is the recommended procedure to enter the holding pattern?

- A) Direct only.
- B) Teardrop only.
- C) Parallel only.

429. H830 IRA

(Refer to figure 105.) If the magnetic heading shown for aircraft 8 is maintained, which ADF illustration would indicate the aircraft is on the 315° magnetic bearing TO the station?

- A) 3.
- B) 4.
- C) 1.

430. J01 IRA

What is the meaning of a single coded identification received only once approximately every 30 seconds from a VORTAC?

- A) The VOR and DME components are operative.
- B) VOR and DME components are both operative, but voice identification is out of service.
- C) The DME component is operative and the VOR component is inoperative.

431. J01 IRA

What is a difference between an SDF and an LDA facility?

- A) The SDF course width is either 6° or 12° while the LDA course width is approximately 5°.
- B) The SDF course has no glide slope guidance while the LDA does.
- C) The SDF has no marker beacons while the LDA has at least an OM.

432. A24 IRA

What limitation is imposed on a newly certificated commercial airplane pilot if that person does not hold an instrument pilot rating?

- A) The carrying of passengers or property for hire on cross-country flights at night is limited to a radius of 50 nautical miles (NM).
- B) The carrying of passengers for hire on cross-country flights is limited to 50 NM for night flights, but not limited for day flights.
- C) The carrying of passengers for hire on cross-country flights is limited to 50 NM and the carrying of passengers for hire at night is prohibited.

433. B10 IRA

Which data must be recorded in the aircraft log or other appropriate log by a pilot making a VOR operational check for IFR operations?

- A) VOR name or identification, date of check, amount of bearing error, and signature.
- B) Place of operational check, amount of bearing error, date of check, and signature.
- C) Date of check, VOR name or identification, place of operational check, and amount of bearing error.

434. I57 IRA

What is the wind shear forecast in the following TAF?

TAF
KCVG 231051Z 231212 12012KT 4SM -RA BR OVC008
WS005/27050KT TEMPO 1719 1/2SM -RA FG
FM1930 09012KT 1SM -DZ BR VV003 BECMG 2021 5SM HZ=

- A) 5 feet AGL from 270° at 50 KT.
- B) 50 feet AGL from 270° at 50 KT.
- C) 500 feet AGL from 270° at 50 KT.

435. I55 IRA

The station originating the following weather report has a field elevation of 1,300 feet MSL. From the bottom of the overcast cloud layer, what is its thickness? (tops of OVC are reported at 3800 feet)

SPECI KOKC 2228Z 28024G36KT 3/4SM BKN008 OVC020 28/23 A3000

- A) 500 feet.

B) 1,700 feet.

C) 2,500 feet.

436. I60 IRA

(Refer to figure 8.) What weather conditions are depicted in the area indicated by arrow A on the Radar Summary Chart?

A) Moderate to strong echoes; echo tops 30,000 feet MSL; line movement toward the northwest.

B) Weak to moderate echoes; average echo bases 30,000 feet MSL; cell movement toward the southeast; rain showers with thunder.

C) Strong to very strong echoes; echo tops 30,000 feet MSL; thunderstorms and rain showers.

437. I60 IRA

For most effective use of the Radar Summary Chart during preflight planning, a pilot should

A) consult the chart to determine more accurate measurements of freezing levels, cloud cover, and wind conditions between reporting stations.

B) compare it with the charts, reports, and forecasts of a three-dimensional picture of clouds and precipitation.

C) utilize the chart as the only source of information regarding storms and hazardous conditions existing between reporting stations.

438. I25 IRA

What determines the structure or type of clouds which form as a result of air being forced to ascend?

A) The method by which the air is lifted.

B) The stability of the air before lifting occurs.

C) The amount of condensation nuclei present after lifting occurs.

439. I32 IRA

The strength and location of the jet stream is normally

A) stronger and farther north in the winter.

B) weaker and farther north in the summer.

C) stronger and farther north in the summer.

440. I24 IRA

Which precipitation type normally indicates freezing rain at higher altitudes?

A) Snow.

B) Hail.

C) Ice pellets.

441. I28 IRA

Which is a characteristic of low level wind shear as it relates to frontal activity?

- A) With a warm front, the most critical period is before the front passes the airport.
- B) With a cold front, the most critical period is just before the front passes the airport.
- C) Turbulence will always exist in wind shear conditions.

442. H807 IRA

What is the relationship between centrifugal force and the horizontal lift component in a coordinated turn?

- A) Horizontal lift exceeds centrifugal force.
- B) Horizontal lift and centrifugal force are equal.
- C) Centrifugal force exceeds horizontal lift.

443. H807 IRA

What force causes an airplane to turn?

- A) Rudder pressure or force around the vertical axis.
- B) Vertical lift component.
- C) Horizontal lift component.

444. H807 IRA

Conditions that determine the pitch attitude required to maintain level flight are

- A) flightpath, wind velocity, and angle of attack.
- B) airspeed, air density, wing design, and angle of attack.
- C) relative wind, pressure altitude, and vertical lift component.

445. J11 IRA

If a control tower and an FSS are located on the same airport, which function is provided by the FSS during those periods when the tower is closed?

- A) Automatic closing of the IFR flight plan.
- B) Approach control services.
- C) Airport Advisory Service.

446. I22 IRA

Which of the following defines the type of altitude used when maintaining FL 210?

- A) Indicated.
- B) Pressure.
- C) Calibrated.

447. H859 IRA

If, while in level flight, it becomes necessary to use an alternate source of static pressure vented inside the airplane, which of the following should the pilot expect?

- A) The altimeter and airspeed indicator to become inoperative.
- B) The gyroscopic instruments to become inoperative.
- C) The vertical speed to momentarily show a climb.

448. H931 IRA

If while in level flight, it becomes necessary to use an alternate source of static pressure vented inside the airplane, which of the following variations in instrument indications should the pilot expect?

- A) The altimeter will read lower than normal, airspeed lower than normal, and the VSI will momentarily show a descent.
- B) The altimeter will read higher than normal, airspeed greater than normal, and the VSI will momentarily show a climb.
- C) The altimeter will read lower than normal, airspeed greater than normal, and the VSI will momentarily show a climb and then a descent.

449. H808 IRA

What would be the indication on the VSI during entry into a 500 FPM actual descent from level flight if the static ports were iced over?

- A) The indication would be in reverse of the actual rate of descent (500 FPM climb).
- B) The initial indication would be a climb, then descent at a rate in excess of 500 FPM.
- C) The VSI pointer would remain at zero regardless of the actual rate of descent.

450. L57 IRA

What indication should a pilot observe if an airspeed indicator ram air input and drain hole are blocked?

- A) The airspeed indicator will react as an altimeter.
- B) The airspeed indicator will show a decrease with an increase in altitude.
- C) No airspeed indicator change will occur during climbs or descents.

451. H808 IRA

If the outside air temperature increases during a flight at constant power and at a constant indicated altitude, the true airspeed will

- A) decrease and true altitude will increase.
- B) increase and true altitude will decrease.
- C) increase and true altitude will increase.

452. J03 IRA

If an approach is being made to a runway that has an operating 3 bar VASI and all the VASI lights appear red as the aircraft reaches the MDA, the pilot should

- A) start a climb to reach the proper glidepath.
- B) continue at the same rate of descent if the runway is in sight.
- C) level off momentarily to intercept the proper approach path.

453. J03 IRA

When on the proper glidepath of a 2 bar VASI, the pilot will see the near bar as

- A) white and the far bar as red.
- B) red and the far bar as white.
- C) white and the far bar as white.

454. V14 IRA

Under which conditions is hydroplaning most likely to occur?

- A) When rudder is used for directional control instead of allowing the nosewheel to contact the surface early in the landing roll on a wet runway.
- B) During conditions of standing water, slush, high speed, and smooth runway texture.
- C) During a landing on any wet runway when brake application is delayed until a wedge of water begins to build ahead of the tires.

455. J08 IRA

(Refer to figure 93.) What is generally the maximum altitude for Class B airspace?

- A) 4,000 feet MSL.
- B) 10,000 feet MSL.
- C) 14,500 feet MSL.

456. J08 IRA

What service is provided by departure control to an IFR flight when operating within the outer area of Class C airspace?

- A) Separation from all aircraft.
- B) Position and altitude of all traffic within 2 miles of the IFR pilot's line of flight and altitude.
- C) Separation from all IFR aircraft and participating VFR aircraft.

457. J08 IRA

(Refer to figure 93.) What is the floor of Class E airspace when designated in conjunction with an airway?

- A) 700 feet AGL.
- B) 1,200 feet AGL.
- C) 1,500 feet AGL.

458. B09 IRA

(Refer to figure 92.) What is the minimum in-flight visibility and distance from clouds required in VFR conditions above clouds at 13,500 feet MSL (above 1,200 feet AGL) in Class G airspace during daylight hours for area 2?

- A) 5 miles; (A) 1,000 feet; (C) 2,000 feet; (D) 500 feet.
- B) 3 miles; (A) 1,000 feet; (C) 1 mile; (D) 1,000 feet.
- C) 5 miles; (A) 1,000 feet; (C) 1 mile; (D) 1,000 feet.

459. H837 IRA

When tracking in bound on the localizer, which of the following is the proper procedure regarding drift corrections?

- A) Drift corrections should be accurately established before reaching the outer marker and completion of the approach should be accomplished with heading corrections no greater than 2°.
- B) Drift corrections should be made in 5° increments after passing the outer marker.
- C) Drift corrections should be made in 10° increments after passing the outer marker.

460. J27 IRA

When landing behind a large jet aircraft, at which point on the runway should you plan to land?

- A) If any crosswind, land on the windward side of the runway and prior to the jet's touchdown point.
- B) At least 1,000 feet beyond the jet's touchdown point.
- C) Beyond the jet's touchdown point.

461. J27 IRA

Wake turbulence is near maximum behind a jet transport just after takeoff because

- A) the engines are at maximum thrust output at slow airspeed.
- B) the gear and flap configuration increases the turbulence to maximum.
- C) of the high angle of attack and high gross weight.

462. J31 IRA

Which statement is correct regarding the use of cockpit lighting for night flight?

- A) Reducing the lighting intensity to a minimum level will eliminate blind spots.
- B) The use of regular white light, such as a flashlight, will impair night adaptation.
- C) Coloration shown on maps is least affected by the use of direct red lighting.

463. J31 IRA

Which use of cockpit lighting is correct for night flight?

- A) Reducing the interior lighting intensity to a minimum level.
- B) The use of regular white light, such as a flashlight, will not impair night adaptation.

C) Coloration shown on maps is least affected by the use of direct red lighting.

464. J31 IRA

What action should be taken if hyperventilation is suspected?

- A) Breathe at a slower rate by taking very deep breaths.
- B) Consciously breathe at a slower rate than normal.
- C) Consciously force yourself to take deep breaths and breathe at a faster rate than normal.

465. J31 IRA

How can an instrument pilot best overcome spatial disorientation?

- A) Use a very rapid cross check.
- B) Properly interpret the flight instruments and act accordingly.
- C) Avoid banking in excess of 30°.

466. J31 IRA

Which technique should a pilot use to scan for traffic to the right and left during straight and level flight?

- A) Systematically focus on different segments of the sky for short intervals.
- B) Concentrate on relative movement detected in the peripheral vision area.
- C) Continuous sweeping of the windshield from right to left.

467. J33 IRA

What is meant when departure control instructs you to 'resume own navigation' after you have been vectored to a Victor airway?

- A) You should maintain the airway by use of your navigation equipment.
- B) Radar service is terminated.
- C) You are still in radar contact, but must make position reports.

468. J18 IRA

While being radar vectored, an approach clearance is received. The last assigned altitude should be maintained until

- A) reaching the FAF.
- B) advised to begin descent.
- C) established on a segment of a published route or IAP.

469. J11 IRA

During a flight, the controller advises 'traffic 2 o'clock 5 miles southbound.' The pilot is holding 20° correction for a crosswind from the right. Where should the pilot look for the traffic?

- A) 40° to the right of the aircraft's nose.

B) 20° to the right of the aircraft's nose.

C) Straight ahead.

470. J11 IRA

If during a VFR practice instrument approach, Radar Approach Control assigns an altitude or heading that will cause you to enter the clouds, what action should be taken?

A) Enter the clouds, since ATC authorization for practice approaches is considered an IFR clearance.

B) Avoid the clouds and inform ATC that altitude/heading will not permit VFR.

C) Abandon the approach.

471. J14 IRA

What is expected of you as pilot on an IFR flight plan if you are descending or climbing in VFR conditions?

A) If on an airway, climb or descend to the right of the centerline.

B) Advise ATC you are in visual conditions and will remain a short distance to the right of the centerline while climbing.

C) Execute gentle banks, left and right, at a frequency which permits continuous visual scanning of the airspace about you.

472. J15 IRA

How is your flight plan closed when your destination airport has IFR conditions and there is no control tower or flight service station (FSS) on the field?

A) The ARTCC controller will close your flight plan when you report the runway in sight.

B) You may close your flight plan any time after starting the approach by contacting any FSS or ATC facility.

C) Upon landing, you must close your flight plan by radio or by telephone to any FSS or ATC facility.

473. J14 IRA

When may ATC request a detailed report of an emergency even though a rule has not been violated?

A) When priority has been given.

B) Any time an emergency occurs.

C) When the emergency occurs in controlled airspace.

474. J16 IRA

During a takeoff into IFR conditions with low ceilings, when should the pilot contact departure control?

A) Before penetrating the clouds.

B) When advised by the tower.

C) Upon completing the first turn after takeoff or upon establishing cruise climb on a straight out departure.

475. J25 IRA

Pilots on IFR flights seeking ATC in flight weather avoidance assistance should keep in mind that

A) ATC radar limitations and, frequency congestion may limit the controllers capability to provide this service.

B) circumnavigating severe weather can only be accommodated in the en route areas away from terminals because of congestion.

C) ATC Narrow Band Radar does not provide the controller with weather intensity capability.

476. J18 IRA

When being radar vectored for an ILS approach, at what point may you start a descent from your last assigned altitude to a lower minimum altitude if cleared for the approach?

A) When established on a segment of a published route or IAP.

B) You may descend immediately to published glide slope interception altitude.

C) Only after you are established on the final approach unless informed otherwise by ATC.

477. J42 IRA

(Refer to figure 49.) You have been cleared to the CREAK intersection via the BTG 054° radial at 7,000 feet. Approaching CREAK, you are cleared for the LOC/DME RWY 21 approach to PDX. Descent to procedure turn altitude should not begin prior to

A) intercepting the glide slope.

B) completion of the procedure turn, and established on the localizer.

C) CREAK outbound.

478. J17 IRA

(Refer to figure 128.) What type entry is recommended for the missed approach holding pattern depicted on the VOR RWY 36 approach chart for Price/Carbon County Airport?

A) Direct only.

B) Teardrop only.

C) Parallel only.

479. J01 IRA

Approximately what height is the glide slope centerline at the MM of a typical ILS?

A) 100 feet.

B) 200 feet.

C) 300 feet.

480. J01 IRA

Immediately after passing the final approach fix in bound during an ILS approach in IFR conditions, the glide slope warning flag appears. The pilot is

- A) permitted to continue the approach and descend to the DH.
- B) permitted to continue the approach and descend to the localizer MDA.
- C) required to immediately begin the prescribed missed approach procedure.

481. J01 IRA

Which of these facilities may be substituted for an MM during a complete ILS IAP?

- A) Surveillance and precision radar.
- B) Compass locator and precision radar.
- C) A VOR/DME fix.

482. B10 IRA

The RVR minimums for takeoff or landing are published in an IAP, but RVR is inoperative and cannot be reported for the runway at the time. Which of the following would apply?

- A) RVR minimums which are specified in the procedure should be converted and applied as ground visibility.
- B) RVR minimums may be disregarded, providing the runway has an operative HIRL system.
- C) RVR minimums may be disregarded, providing all other components of the ILS system are operative.

483. J18 IRA

Which procedure should be followed by a pilot who is circling to land in a Category B airplane, but is maintaining a speed 5 knots faster than the maximum specified for that category?

- A) Use the approach minimums appropriate for Category C.
- B) Use Category B minimums.
- C) Use Category D minimums since they apply to all circling approaches.

484. J18 IRA

During an instrument precision approach, terrain and obstacle clearance depends on adherence to

- A) minimum altitude shown on the IAP.
- B) terrain contour information.
- C) natural and man made reference point information.

485. H833 IRA

(Refer to figure 36A.) What is the MDA and visibility criteria respectively for the S 33 approach procedure?

- A) 1,240 feet MSL; 1 SM.

B) 1,280 feet MSL; 1 and 1/4 SM.

C) 1,240 feet MSL; 1/2 SM.

486. H833 IRA

(Refer to figure 36A.) What is the MDA and visibility criteria respectively for the S 33 approach procedure?

A) 1,240 feet MSL; 1 SM.

B) 1,280 feet MSL; 1 and 1/4 SM.

C) 1,300 feet MSL; 1 SM.

487. B10 IRA

If during an ILS approach in IFR conditions, the approach lights are not visible upon arrival at the DH, the pilot is

A) required to immediately execute the missed approach procedure.

B) permitted to continue the approach and descend to the localizer MDA.

C) permitted to continue the approach to the approach threshold of the ILS runway.

488. J18 IRA

If all ILS components are operating and the required visual references are not established, the missed approach should be initiated upon

A) arrival at the DH on the glide slope.

B) arrival at the middle marker.

C) expiration of the time listed on the approach chart for missed approach.

489. J18 IRA

Prior to conducting 'timed approaches from a holding fix,' which one of the following is required?

A) The time required to fly from the primary facility to the field boundary must be determined by a reliable means.

B) The airport where the approach is to be conducted must have a control tower in operation.

C) The pilot must have established two way communications with the tower before departing the holding fix.

490. H816 IRA

When airspeed is increased in a turn, what must be done to maintain a constant altitude?

A) Decrease the angle of bank.

B) Increase the angle of bank and/or decrease the angle of attack.

C) Decrease the angle of attack.

491. H816 IRA

What is the initial primary bank instrument when establishing a level standard-rate turn?

- A) Turn coordinator.
- B) Heading indicator.
- C) Attitude indicator.

492. H815 IRA

To level off from a descent maintaining the descending airspeed, the pilot should lead the desired altitude by approximately

- A) 20 feet.
- B) 50 feet.
- C) 60 feet.

493. H815 IRA

To enter a constant airspeed descent from level cruising flight, and maintain cruising airspeed, the pilot should

- A) first adjust the pitch attitude to a descent using the attitude indicator as a reference, then adjust the power to maintain the cruising airspeed.
- B) first reduce power, then adjust the pitch using the attitude indicator as a reference to establish a specific rate on the VSI.
- C) simultaneously reduce power and adjust the pitch using the attitude indicator as a reference to maintain the cruising airspeed.

494. H826 IRA

(Refer to figure 149.) What is the flight attitude? One system which transmits information to the instruments has malfunctioned.

- A) Level turn to the right.
- B) Level turn to the left.
- C) Straight and level flight.

495. H816 IRA

Which instruments are considered to be supporting instruments for pitch during change of airspeed in a level turn?

- A) Airspeed indicator and VSI.
- B) Altimeter and attitude indicator.
- C) Attitude indicator and VSI.

496. H814 IRA

Which instrument provides the most pertinent information (primary) for pitch control in straight-and-level flight?

- A) Attitude indicator.
- B) Airspeed indicator.
- C) Altimeter.

497. H813 IRA

Which instruments should be used to make a pitch correction when you have deviated from your assigned altitude?

- A) Altimeter and VSI.
- B) Manifold pressure gauge and VSI.
- C) Attitude indicator, altimeter, and VSI.

498. H815 IRA

The glide slope and localizer are centered, but the airspeed is too fast. Which should be adjusted initially?

- A) Pitch and power.
- B) Power only.
- C) Pitch only.

499. H818 IRA

Which is the correct sequence for recovery from a spiraling, nose low, increasing airspeed, unusual flight attitude?

- A) Increase pitch attitude, reduce power, and level wings.
- B) Reduce power, correct the bank attitude, and raise the nose to a level attitude.
- C) Reduce power, raise the nose to level attitude, and correct the bank attitude.

500. H810 IRA

During normal operation of a vacuum driven attitude indicator, what attitude indication should you see when rolling out from a 180° skidding turn to straight-and-level coordinated flight?

- A) A straight-and-level coordinated flight indication.
- B) A nose high indication relative to level flight.
- C) The miniature aircraft shows a turn in the direction opposite the skid.

501. H812 IRA

What pretakeoff check should be made of a vacuum driven heading indicator in preparation for an IFR flight?

- A) After 5 minutes, set the indicator to the magnetic heading of the aircraft and check for proper alignment after taxi turns.
- B) After 5 minutes, check that the heading indicator card aligns itself with the magnetic heading of the aircraft.

C) Determine that the heading indicator does not precess more than 2° in 5 minutes of ground operation.

502. H933 IRA

What should be the indication on the magnetic compass as you roll into a standard-rate turn to the right from a westerly heading in the Northern Hemisphere?

- A) The compass will initially show a turn in the opposite direction, then turn to a northerly indication but lagging behind the actual heading of the aircraft.
- B) The compass will remain on a westerly heading for a short time, then gradually catch up to the actual heading of the aircraft.
- C) The compass will indicate the approximate correct magnetic heading if the roll into the turn is smooth.

503. H810 IRA

What indications are displayed by the miniature aircraft of a turn coordinator?

- A) Rate of roll and rate of turn.
- B) Direct indication of bank angle and pitch attitude.
- C) Indirect indication of bank angle and pitch attitude.

504. H814 IRA

(Refer to figure 144.) What changes in control displacement should be made so that '2' would result in a coordinated standard-rate turn?

- A) Increase left rudder and increase rate of turn.
- B) Increase left rudder and decrease rate of turn.
- C) Decrease left rudder and decrease angle of bank.

505. H810 IRA

If a half standard-rate turn is maintained, how much time would be required to turn clockwise from a heading of 090° to a heading of 180°?

- A) 30 seconds.
- B) 1 minute.
- C) 1 minute 30 seconds.

506. H814 IRA

You check the flight instruments while taxiing and find that the vertical speed indicator (VSI) indicates a descent of 100 feet per minute. In this case, you

- A) must return to the parking area and have the instrument corrected by an authorized instrument repairman.
- B) may take off and use 100 feet descent as the zero indication.
- C) may not take off until the instrument is corrected by either the pilot or a mechanic.

507. J33 IRA

What does the ATC term 'Radar Contact' signify?

- A) Your aircraft has been identified and you will receive separation from all aircraft while in contact with this radar facility.
- B) Your aircraft has been identified on the radar display and radar flight following will be provided until radar identification is terminated.
- C) You will be given traffic advisories until advised the service has been terminated or that radar contact has been lost.

508. H931 IRA

(Refer to figure 38.) What CAS must be used to maintain the filed TAS at the flight planned altitude if the outside air temperature is +05 °C?

- A) 129 KCAS.
- B) 133 KCAS.
- C) 139 KCAS.

509. J14 IRA

When ATC has not imposed any climb or descent restrictions and aircraft are within 1,000 feet of assigned altitude, pilots should attempt to both climb and descend at a rate of between

- A) 500 feet per minute and 1,000 feet per minute.
- B) 500 feet per minute and 1,500 feet per minute.
- C) 1000 feet per minute and 2,000 feet per minute.

510. J17 IRA

(Refer to figure 113.) You receive this ATC clearance:

'...CLEARED TO THE ABC VORTAC. HOLD WEST ON THE TWO SEVEN ZERO RADIAL...'

What is the recommended procedure to enter the holding pattern?

- A) Parallel only.
- B) Direct only.
- C) Teardrop only.

511. J17 IRA

(Refer to figure 113.) You receive this ATC clearance:

'...CLEARED TO THE XYZ VORTAC. HOLD NORTH ON THE THREE SIX ZERO RADIAL, LEFT TURNS...'

What is the recommended procedure to enter the holding pattern.

- A) Parallel only.
- B) Direct only.

C) Teardrop only.

512. J17 IRA

(Refer to figure 117.) You receive this ATC clearance:

'...CLEARED TO THE XYZ NDB. HOLD NORTHEAST ON THE ZERO FOUR ZERO DEGREE BEARING FROM THE NDB. LEFT TURNS...'

At station passage you note the indications in figure 117. What is the recommended procedure to enter the holding pattern?

- A) Direct only.
- B) Teardrop only.
- C) Parallel only.

513. J17 IRA

(Refer to figure 114.) A pilot receives this ATC clearance:

'...CLEARED TO THE ABC VORTAC. HOLD WEST ON THE TWO SEVEN ZERO RADIAL...'

What is the recommended procedure to enter the holding pattern?

- A) Parallel or teardrop.
- B) Parallel only.
- C) Direct only.

514. J17 IRA

To ensure proper airspace protection while in a holding pattern, what is the maximum airspeed above 14,000 feet for civil turbojet aircraft?

- A) 230 knots.
- B) 265 knots.
- C) 200 knots.

515. J17 IRA

(Refer to figure 116.) You arrive over the 15 DME fix on a heading of 350°. Which holding pattern correctly complies with the ATC clearance below, and what is the recommended entry procedure?

'...HOLD WEST OF THE ONE FIVE DME FIX ON THE TWO SIX EIGHT RADIAL OF THE ABC VORTAC, FIVE MILE LEGS, LEFT TURNS...'

- A) 1; teardrop entry.
- B) 2; direct entry.
- C) 1; direct entry.

516. J17 IRA

What timing procedure should be used when performing a holding pattern at a VOR?

- A) Timing for the outbound leg begins over or abeam the VOR, whichever occurs later.

- B) Timing for the inbound leg begins when initiating the turn inbound.
- C) Adjustments in timing of each pattern should be made on the inbound leg.

517.

J17

IRA

At what point should the timing begin for the first leg outbound in a nonstandard holding pattern?

- A) Abeam the holding fix, or wings level, whichever occurs last.
- B) When the wings are level at the completion of the 180° turn outbound.
- C) When over or abeam the holding fix, whichever occurs later.

518.

H948

IRA

(Refer to FD excerpt below, and use the wind entry closest to the flight planned altitude.) Determine the time to be entered in block 10 of the flight from GJT to DRO.

Route of flight	Figure 21	
Flight log & MAG VAR	Figure 22	
En route chart	Figure 24	
FT	12,000	18,000
FNM	2408-05	2208-21

- A) 1 hour 08 minutes.
- B) 1 hour 03 minutes.
- C) 58 minutes.

519.

H948

IRA

(Refer to figure 91.) Southbound on V257, at what time should you arrive at DBS VORTAC if you crossed over CPN VORTAC at 0850 and over DIVID intersection at 0854?

- A) 0939.
- B) 0943.
- C) 0947.

520.

J15

IRA

For IFR planning purposes, what are the compulsory reporting points when using VOR/DME or VORTAC fixes to define a direct route not on established airways?

- A) Fixes selected to define the route.
- B) There are no compulsory reporting points unless advised by ATC.
- C) At the changeover points.

521.

J15

IRA

When may a pilot file a composite flight plan?

- A) When requested or advised by ATC.

- B) Any time a portion of the flight will be VFR.
- C) Any time a landing is planned at an intermediate airport.

522. J15 IRA

(Refer to figure 1.) Which equipment determines the code to be entered in block 3 as a suffix to aircraft type on the flight plan form?

- A) DME, ADF, and airborne radar.
- B) DME, transponder, and ADF.
- C) DME, transponder, and RNAV.

523. J01 IRA

Which distance is displayed by the DME indicator?

- A) Slant range distance in NM.
- B) Slant range distance in SM.
- C) Line of sight direct distance from aircraft to VORTAC in SM.

524. J01 IRA

Where does the DME indicator have the greatest error between ground distance to the VORTAC and displayed distance?

- A) High altitudes far from the VORTAC.
- B) High altitudes close to the VORTAC.
- C) Low altitudes far from the VORTAC.

525. J42 IRA

(Refer to figures 60A and 61.) What is your position relative to the PLATS intersection, glide slope, and the localizer course?

- A) Past PLATS, below the glide slope, and right of the localizer course.
- B) Approaching PLATS, above the glide slope, and left of the localizer course.
- C) Past PLATS, above the glide slope, and right of the localizer course.

526. J01 IRA

What is the difference between a Localizer Type Directional Aid (LDA) and the ILS localizer?

- A) The LDA is not aligned with the runway.
- B) The LDA uses a course width of 6° or 12°, while an ILS uses only 5°.
- C) The LDA signal is generated from a VOR-type facility and has no glide slope.

527. H831 IRA

Which of the following should be considered as station passage when using VOR?

- A) The first flickering of the TO FROM indicator and CDI as the station is approached.

- B) The first full scale deflection of the CDI.
- C) The first complete reversal of the TO FROM indicator.

528. J35 IRA

(Refer to figure 24.) At what point should a VOR changeover be made from JNC VOR to MANCA intersection southbound on V187?

- A) 36 NM south of JNC.
- B) 52 NM south of JNC.
- C) 74 NM south of JNC.

529. J01 IRA

How should the pilot make a VOR receiver check when the aircraft is located on the designated checkpoint on the airport surface?

- A) Set the OBS on 180° plus or minus 4° ; the CDI should center with a FROM indication.
- B) Set the OBS on the designated radial. The CDI must center within plus or minus 4° of that radial with a FROM indication.
- C) With the aircraft headed directly toward the VOR and the OBS set to 000° , the CDI should center within plus or minus 4° of that radial with a TO indication.

530. J15 IRA

Which types of airspace are depicted on the En Route Low Altitude Chart?

- A) Limits of controlled airspace, military training routes and special use airspace.
- B) Class A, special use airspace, Class D and Class E.
- C) Special use airspace, Class E, Class D, Class A, Class B and Class C.

531. J35 IRA

(Refer to figure 87.) Why is the localizer back course at Jefferson County rport depicted?

- A) The back course is not aligned with a runway.
- B) The back course has a glide slope.
- C) The back course has an additional navigation function.

532. J35 IRA

(Refer to figure 87.) What is indicated by the localizer course symbol at Jefferson County Airport?

- A) A published LDA localizer course.
- B) A published SDF localizer course.
- C) A published ILS localizer course, which has an additional navigation function.

533. J35 IRA

(Refer to figure 91.) Where should you change VOR frequencies when en route from DBS VORTAC to JAC VOR/DME on V520?

- A) 35 NM from DBS VORTAC.
- B) 60 NM from DBS VORTAC.
- C) 60 NM from JAC VOR/DME.

534. J35 IRA

(Refer to figure 53.) What service is indicated by the inverse 'H' symbol in the radio aids to navigation box for PRB VORTAC?

- A) VOR with TACAN compatible DME.
- B) Availability of HIWAS.
- C) En Route Flight Advisory Service available.

535. J17 IRA

(Refer to figure 24.) Proceeding southbound on V187, (vicinity of Cortez VOR) contact is lost with Denver Center. You should attempt to reestablish contact with Denver Center on:

- A) 133.425 MHz.
- B) 122.1 MHz and receive on 108.4 MHz.
- C) 122.35 MHz.

536. J35 IRA

(Refer to figure 40.) For planning purposes, what is the highest useable altitude for an IFR flight on V16 from BGS VORTAC to ABI VORTAC?

- A) 17,000 feet MSL.
- B) 18,000 feet MSL.
- C) 6,500 feet MSL.

537. J35 IRA

(Refer to figures 22 and 24.) For planning purposes, what would be the highest MEA on V187 between Grand Junction, Walker Airport and Durango, La Plata Co. Airport?

- A) 12,000 feet.
- B) 15,000 feet.
- C) 16,000 feet.

538. J35 IRA

(Refer to figure 24.) What is the MOCA between JNC and MANCA intersection on V187?

- A) 10,900 feet MSL.
- B) 12,000 feet MSL.
- C) 13,700 feet MSL.

539. J42 IRA

(Refer to figure 55.) Under which condition should a missed approach procedure be initiated if the runway environment (Paso Robles Municipal Airport) is not in sight?

- A) After descending to 1,440 feet MSL.
- B) After descent to 1,440 feet or reaching the 1 NM DME, whichever occurs first.
- C) When you reach the established missed approach point and determine the visibility is less than 1 mile.

540. J42 IRA

(Refer to figure 73.) Which runway and landing environment lighting is available for approach and landing on RWY 6 at Bradley International?

- A) HIRL, REIL, and VASI.
- B) HIRL and VASI.
- C) ALSF2 and HIRL.

541. J42 IRA

(Refer to figure 73.) After passing the OM, Bradley Approach Control advises you that the MM on the ILS RWY 6 approach is inoperative. Under these circumstances, what adjustments, if any, are required to be made to the DH and visibility?

- A) DH 424/24.
- B) No adjustments are required.
- C) DH 374/24.

542. J42 IRA

(Refer to figure 73.) What is the touchdown zone elevation for RWY 6?

- A) 174 feet MSL.
- B) 200 feet AGL.
- C) 270 feet MSL.

543. J17 IRA

(Refer to figure 129.) What indication should you get when it is time to turn in bound while in the procedure turn at LABER?

- A) 4 DME miles from LABER.
- B) 10 DME miles from the MAP.
- C) 12 DME miles from LIT VORTAC.

544. J42 IRA

(Refer to figure 121.) During the ILS RWY 30R procedure at DSM, the minimum altitude for glide slope interception is

- A) 2,365 feet MSL.
- B) 2,500 feet MSL.
- C) 3,000 feet MSL.

545. J42 IRA

(Refer to figure 80.) How many initial approach fixes serve the VOR/DME RWY 27R (Billings Logan) approach procedure?

- A) Three.
- B) Four.
- C) Five.

546. J42 IRA

(Refer to figure 49.) What is the usable runway length for landing on runway 21 at PDX?

- A) 7,000 feet.
- B) 7,900 feet.
- C) 5,957 feet.

547. J41 IRA

(Refer to figures 41 and 41A.) Which frequency would you anticipate using to contact Regional Approach Control? (ACTON TWO ARRIVAL).

- A) 119.05.
- B) 124.15.
- C) 125.8.

548. J18 IRA

(Refer to figures 41, 42, 42A.) Approaching DFW from Abilene, which frequencies should you expect to use for regional approach control, control tower, and ground control respectively?

- A) 119.05; 126.55; 121.65.
- B) 119.05; 124.15; 121.8.
- C) 125.8; 124.15; 121.8.

549. J42 IRA

(Refer to figures 42A.) Which navigational information and services would be available to the pilot when using the localizer frequency?

- A) Localizer and glide slope, DME, TACAN with no voice capability.
- B) Localizer information only, ATIS and DME are available.
- C) Localizer and glide slope, DME, and no voice capability.

550. H862 IRA

What is a way point when used for an IFR flight?

- A) A predetermined geographical position used for an RNAV route or an RNAV instrument approach.
- B) A reporting point defined by the intersection of two VOR radials.
- C) A location on a victor airway which can only be identified by VOR and DME signals.

551. A20 IRA

You intend to carry passengers for hire on a night VFR flight in a single engine airplane within a 25 mile radius of the departure airport. You are required to possess at least which rating(s)?

- A) A Commercial Pilot Certificate with a single engine land rating.
- B) A Commercial Pilot Certificate with a single engine and instrument (airplane) rating.
- C) A Private Pilot Certificate with a single engine land and instrument airplane rating.

552. A20 IRA

A certificated commercial pilot who carries passengers for hire at night or in excess of 50 NM is required to have at least

- A) an associated type rating if the airplane is of the multiengine class.
- B) a First-Class Medical Certificate.
- C) an instrument rating in the same category and class of aircraft.

553. B10 IRA

For aircraft other than helicopters, is an alternate airport required for an IFR flight to ATL (Atlanta Hartsfield) if the proposed ETA is 1930Z?

TAF KATL 121720Z 121818 20012KT 5SM HZ BKN030

FM2000 3SM TSRA OVC025CB

FM2200 33015G20KT P6SM BKN015 OVC040 BECMG 0608

02008KT BKN 040 BECMG 1012 00000KT P6SM CLR=

- A) Yes, because the ceiling could fall below 2,000 feet within 2 hours before to 2 hours after the ETA.
- B) No, because the ceiling and visibility are forecast to remain at or above 1,000 feet and 3 miles, respectively.
- C) No, because the ceiling and visibility are forecast to be at or above 2,000 feet and 3 miles within 1 hour before to 1 hour after the ETA.

554. B10 IRA

An airport without an authorized IAP may be included on an IFR flight plan as an alternate, if the current weather forecast indicates that the ceiling and visibility at the ETA will

- A) allow for descent from the IAF to landing under basic VFR conditions.
- B) be at least 1,000 feet and 1 mile.

C) allow for a descent from the MEA, approach, and a landing under basic VFR conditions.

555. B10 IRA

When departing from an airport located outside controlled airspace during IMC, you must file an IFR flight plan and receive a clearance before

- A) takeoff.
- B) entering IFR conditions.
- C) entering Class E airspace.

556. B08 IRA

Which procedure is recommended while climbing to an assigned altitude on the airway?

- A) Climb on the centerline of the airway except when maneuvering to avoid other air traffic in VFR conditions.
- B) Climb slightly on the right side of the airway when in VFR conditions.
- C) Climb far enough to the right side of the airway to avoid climbing or descending traffic coming from the opposite direction if in VFR conditions.

557. B07 IRA

The use of certain portable electronic devices is prohibited on aircraft that are being operated under

- A) IFR.
- B) VFR.
- C) DVFR.

558. B11 IRA

What is the maximum IFR altitude you may fly in an unpressurized aircraft without providing passengers with supplemental oxygen?

- A) 12,500 feet.
- B) 14,000 feet.
- C) 15,000 feet.

559. I57 IRA

When are severe weather watch bulletins (WW) issued?

- A) Every 12 hours as required.
- B) Every 24 hours as required.
- C) Unscheduled and issued as required.

560. I63 IRA

When is the wind group at one of the forecast altitudes omitted at a specific location or station in the Winds and Temperatures Aloft Forecast (FD)? When the wind

- A) is less than 5 knots.
- B) is less than 10 knots.
- C) at the altitude is within 1,500 feet of the station elevation.

561. J25 IRA

AIRMET's are issued on a scheduled basis every

- A) 15 minutes after the hour only.
- B) 15 minutes until the AIRMET is canceled.
- C) six hours.

562. I56 IRA

What significant sky condition is reported in this METAR observation?

METAR KBNA 1250Z 33018KT 290V360 1/2SM R31/2700FT +SN
BLSNFG VV008 00/M03 A2991 RMK RAE42SNB42

- A) Runway 31 ceiling is 2700 feet.
- B) Sky is obscured with vertical visibility of 800 feet.
- C) Measured ceiling is 300 feet overcast.

563. I57 IRA

Which meteorological condition is issued in the form of a SIGMET (WS)?

- A) Widespread sand or dust storms lowering visibility to less than 3 miles.
- B) Moderate icing.
- C) Sustained winds of 30 knots or greater at the surface.

564. I61 IRA

What flight planning information can a pilot derive from constant pressure charts?

- A) Clear air turbulence and icing conditions.
- B) Levels of widespread cloud coverage.
- C) Winds and temperatures aloft.

565. I57 IRA

Which weather forecast describes prospects for an area coverage of both severe and general thunderstorms during the following 24 hours?

- A) Terminal Aerodrome Forecast.
- B) Convective outlook.
- C) Radar Summary Chart.

566. I59 IRA

(Refer to figure 4.) What is the meaning of a bracket (J) plotted to the right of the station circle on a weather depiction chart?

- A) The station represents the en route conditions within a 50 mile radius.
- B) The station is an automated observation location.
- C) The station gives local overview of flying conditions for a six hour period.

567. I27 IRA

What is indicated by the term 'embedded thunderstorms'?

- A) Severe thunderstorms are embedded within a squall line.
- B) Thunderstorms are predicted to develop in a stable air mass.
- C) Thunderstorms are obscured by massive cloud layers and cannot be seen.

568. I27 IRA

Which are characteristics of an unstable cold air mass moving over a warm surface?

- A) Cumuliform clouds, turbulence, and poor visibility.
- B) Cumuliform clouds, turbulence, and good visibility.
- C) Stratiform clouds, smooth air, and poor visibility.

569. I27 IRA

An air mass is a body of air that

- A) has similar cloud formations associated with it.
- B) creates a wind shift as it moves across the Earth's surface.
- C) covers an extensive area and has fairly uniform properties of temperature and moisture.

570. I27 IRA

Which is a characteristic of stable air?

- A) Fair weather cumulus clouds.
- B) Stratiform clouds.
- C) Unlimited visibility.

571. I27 IRA

The general characteristics of unstable air are

- A) good visibility, showery precipitation, and cumuliform type clouds.
- B) good visibility, steady precipitation, and stratiform type clouds.
- C) poor visibility, intermittent precipitation, and cumuliform type clouds.

572. I26 IRA

The suffix 'nimbus', used in naming clouds, means a

- A) cloud with extensive vertical development.
- B) rain cloud.
- C) dark massive, towering cloud.

573. I32 IRA

Which weather condition can be expected when moist air flows from a relatively warm surface to a colder surface?

- A) Increased visibility.
- B) Convective turbulence due to surface heating.
- C) Fog.

574. I29 IRA

Which family of clouds is least likely to contribute to structural icing on an aircraft?

- A) Low clouds.
- B) High clouds.
- C) Clouds with extensive vertical development.

575. I24 IRA

To which meteorological condition does the term 'dew point' refer?

- A) The temperature to which air must be cooled to become saturated.
- B) The temperature at which condensation and evaporation are equal.
- C) The temperature at which dew will always form.

576. I30 IRA

Which thunderstorms generally produce the most severe conditions, such as heavy hail and destructive winds?

- A) Warm front.
- B) Squall line.
- C) Air mass.

577. I21 IRA

What feature is associated with a temperature inversion?

- A) A stable layer of air.
- B) An unstable layer of air.
- C) Air mass thunderstorms.

578. I30 IRA

What are the requirements for the formation of a thunderstorm?

- A) A cumulus cloud with sufficient moisture.
- B) A cumulus cloud with sufficient moisture and an inverted lapse rate.
- C) Sufficient moisture, an unstable lapse rate, and a lifting action.

579. I30 IRA

Which weather phenomenon is always associated with a thunderstorm?

- A) Lightning.
- B) Heavy rain showers.
- C) Supercooled raindrops.

580. I28 IRA

The presence of standing lenticular altocumulus clouds is a good indication of

- A) a jet stream.
- B) very strong turbulence.
- C) heavy icing conditions.

581. I28 IRA

Standing lenticular clouds, in mountainous areas, indicate

- A) an inversion.
- B) unstable air.
- C) turbulence.

582. I30 IRA

Which procedure is recommended if a pilot should unintentionally penetrate embedded thunderstorm activity?

- A) Reverse aircraft heading or proceed toward an area of known VFR conditions.
- B) Reduce airspeed to maneuvering speed and maintain a constant altitude.
- C) Set power for recommended turbulence penetration airspeed and attempt to maintain a level flight attitude.

583. H921 IRA

If severe turbulence is encountered during your IFR flight, the airplane should be slowed to the design maneuvering speed because the

- A) maneuverability of the airplane will be increased.
- B) amount of excess load that can be imposed on the wing will be decreased.
- C) airplane will stall at a lower angle of attack, giving an increased margin of safety.

584. I20 IRA

A characteristic of the stratosphere is

- A) an overall decrease of temperature with an increase in altitude.
- B) a relatively even base altitude of approximately 35,000 feet.
- C) relatively small changes in temperature with an increase in altitude.

585. K04 IRA

When passing through an abrupt wind shear which involves a shift from a tailwind to a headwind, what power management would normally be required to maintain a constant indicated airspeed and ILS glide slope?

- A) Higher than normal power initially, followed by a further increase as the wind shear is encountered, then a decrease.
- B) Lower than normal power initially, followed by a further decrease as the wind shear is encountered, then an increase.
- C) Higher than normal power initially, followed by a decrease as the shear is encountered, then an increase.

586. J34 IRA

(Refer to figure 68.) What is the VASI approach slope angle for RWY 12 at Houma Terrebonne?

- A) 3.0°.
- B) 2.8°.
- C) 2.5°.

587. J08 IRA

What minimum aircraft equipment is required for operation within Class C airspace?

- A) Two-way communications and Mode C transponder.
- B) Two-way communications.
- C) Transponder and DME.

588. J08 IRA

(Refer to figure 93.) Which altitude is the normal upper limit for Class D airspace?

- A) 1,000 feet AGL.
- B) 2,500 feet AGL.
- C) 4,000 feet AGL.

589. B10 IRA

In the event of two-way radio communications failure while operating on an IFR clearance in VFR conditions the pilot should continue

- A) by the route assigned in the last ATC clearance received.
- B) the flight under VFR and land as soon as practical.
- C) the flight by the most direct route to the fix specified in the last clearance.

590. J15 IRA

(Refer to figure 56.) What aircraft equipment code should be entered in block 3 of the flight plan?

- A) U.
- B) A.
- C) I.

591. J01 IRA

(Refer to figure 58.) Which indications on the VOR receivers and DME at the Easterwood Field VOR receiver checkpoint would meet the regulatory requirement for this flight?

VOR	TO/FROM	VOR	TO/FROM	DME
No. 1		No. 2		

- A) 097° FROM 101° FROM 3.3
- B) 097° TO 096° TO 3.2
- C) 277° FROM 280° FROM 3.3

592. J35 IRA

(Refer to figures 65 and 67.) What is the significance of the symbol at GRICE intersection?

- A) It signifies a localizer only approach is available at Harry P. Williams Memorial.
- B) The localizer has an additional navigation function.
- C) GRICE intersection also serves as the FAF for the ILS approach procedure to Harry P. Williams Memorial.

593. J10 IRA

Which aeronautical chart depicts Military Training Routes (MTR) above 1,500 feet?

- A) IFR Planning Chart.
- B) IFR Low Altitude En Route Chart.
- C) IFR High Altitude En Route Chart.

594. J34 IRA

(Refer to figure 58.) On which frequencies could you communicate with the Montgomery County FSS while on the ground at College Station?

- A) 122.65, 122.2, 122.1, 113.3.
- B) 122.65, 122.2.
- C) 118.5, 122.65, 122.2.